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THE

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A Journal of British and Foreign Medicine, Physiology, Surgery, Chemistry, Criticism, Literature, and News.

EDITED BY

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M.P. DURING EIGHTEEN YEARS FOR THE METROPOLITAN BOROUGH OF FINSBURY,
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MR. WAKLEY, M.P., EDITOR. J. HENRY BENNET, M.D., J. WAKLEY, JR., SUB-EDITORS.

IN TWO VOLUMES ANNUALLY.

VOL. I. NEW YORK, JANUARY, 1857. No. 1.

A Course of Lectures

ON THE

THEORY AND PRACTICE

OF

OBSTETRICS.

BY W. TYLER SMITH, M.D.,

PHYSICIAN-ACCOUCHEUR TO ST. MARY'S HOSPITAL, AND LECTURER ON MIDWIFERY AND THE DISEASES OF WOMEN IN ST. MARY'S HOSPITAL MEDICAL SCHOOL.

LECTURE XXX.

FUNIS PRESENTATIONS.

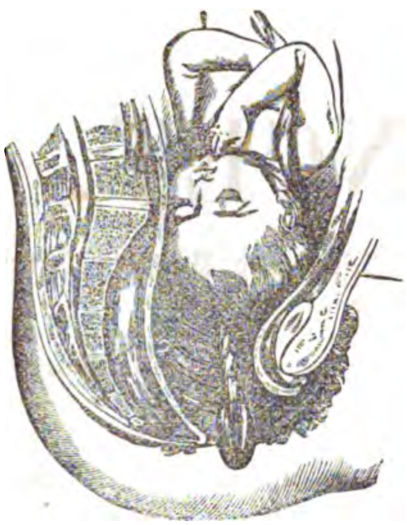
GENTLEMEN,—The Funis may present alone at the beginning of labour, or it may descend with the head, arm, nates, and any other presentation of the fœtus. Its positive frequency is greatest in head cases, but relatively it is more frequent in arm and shoulder presentations than in other varieties. This serious complication may occur at any time during labour. It may happen before the evacuation of the liquor amnii, when the head or presenting part is passing the os uteri, or when it is emerging from the perinæum.

The Causes of funis presentations are various. In arm cases, where the body of the child lies transversely, the anatomical position of the umbilicus and the funis favours the descent of the cord, and this descent is still further promoted by the fact, that in shoulder cases the circular os uteri does not at all points closely embrace the presenting part, on account of its irregularities. In its contractions, the uterus cannot sweep equably over the shoulder as it does in cranial presentations during the pains, so as to carry up the funis when there is any tendency to prolapse. Presentations of the feet and breech, or of the hands and feet, are frequently complicated with the funis, and from the same causes. In the case of head presentations, length of the cord, small size of the head, the descent of the hand with the head, a large quantity of liquor amnii, and its sudden evacuation, or a pelvis above the average size, may cause prolapsus of the cord. It happens in twin cases, particularly in the delivery of the second child. The position of the placenta is also influential as a cause of funis presentations. The cord is prone to descend when the placenta is partially attached to the os uteri, or when the placenta is fixed to the lateral walls of the placenta instead of to the fundus, or when the placenta being seated near the fundus, the cord is inserted into the edge instead of the centre of its diameter. Mr. Roberton, of Manchester, points out that, in cases of contraction of the brim of the pelvis, where, on the rupture of the membranes, the head does not descend upon the os uteri, but remains suspended at the brim, the funis is very apt to float down with the liquor amnii and pass through the os. An interesting series of cases has been reported by Mr. Roberton, which fully bears out this view. When the head of the fœtus remains above the os uteri, the relations of the os to the presentation very much resemble those which obtain in shoulder or nates cases. There is a want of that apposition between the os uteri and the presenting part which prevents prolapsus of the cord in perfectly natural cases.

As regards the Frequency of this complication, Dr. Fleetwood Churchill has collected 128,224 cases of all presentations, which yielded 579 funis cases, or about 1 in 221½. As regards the mother, labour is not in the least degree rendered more unfavourable than usual, but the mortality to the fœtus is very great. Considerably more than 1 in 2 of the children die in cases where the cord presents. In arm presentations the mortality is rather more than 1 in 2. It will be remembered that in breech cases the mortality was 1 in 3½, and in footling cases, 1 in 2½. In turning, the fœtal mortality is rather more than 1 in 3. Thus the presentation of the funis is more dangerous to the child than any other variety of labour.

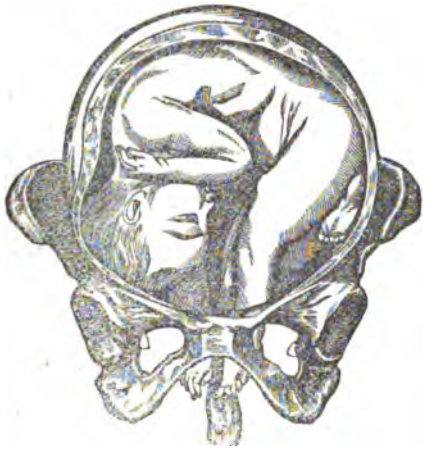
The symptoms of funis presentations are suffi-

FIG. 125.



Presentation of the Funis, with the head in the first position.

FIG. 126.



Presentation of the Funis, with a hand and foot.

ciently well marked to make their diagnosis easy. Sometimes a loop of cord, several inches in length, hangs from the vagina. It may be pulsating, or it may be cold and flaccid. But in one case the umbilical pulse, and in the other the twisted arrangement of the cord, or an ocular inspection, will remove all doubt. In cases where the cord comes down with the advancing part of the child, or presents with it at the os uteri, the only part of the full-grown fœtus which can be mistaken for it is the closed hand or the toes. The knuckles when only part of the hand is felt, or the row of toes, may feel somewhat like the end of a loop of cord. But the presence or absence of pulsation, and the examination of a few inches of the cord, or enough of the extremities to reach the wrist or the ankle, will make the matter clear. There is one complication of labour which it is necessary to mention, in which a mistake respecting the cord may lead to the most serious results. In cases of ruptured uterus, a coil of the small intestine may pass through the laceration, and present in the os uteri or the passage. This has in rare instances been mistaken for the cord of a dead child, and pulled down or even cut off by ignorant or incautious persons. A case of this kind occurred in London, and another in Ireland, incredible as it may appear, within the last ten or twelve years. In cases of this kind happening to a midwife, in which a medical man might be called after the rupture of the uterus and prolapse of the intestine, some little caution would be necessary to avoid mischief. An inexperienced accoucheur might pull at the supposed cord, and do the gravest injury, particularly if the previous history of the case had been kept from him.

Of course, the cause of the Mortality in funis cases is the pressure exerted upon the cord, between the presenting parts of the child and the hard and soft parts of the mother. The child dies of asphyxia, the fœtal circulation being in severe cases entirely cut off from the respiratory functions of the placenta. We may compare the child under the circumstances of funis presentation, to cases of turning, to cases in which the placenta is separated, or the contractions of the uterus are so intense and continuous as to prevent the circulation of the blood in the maternal side of the placenta. The comparison between the presentation of the funis, and the descent of the nates or feet foremost, is very obvious. Wherever the order of labour is such that the funis, or any portion of it, precedes the descent of the more bulky portions of the fœtus, the case is essentially one of funis presentation. Thus, in footling, breech, and turning cases, as soon as the umbilicus engages in the pelvis, pressure is exerted on the cord, and the cases are identical with funis presentation. The mortality depends on the length of time to which the funis is subject to pressure, and the degree of the pressure during the exit of the fœtus. Thus it is greatest in funis cases proper, in which the cord comes before or with the presenting part, and is thus subjected to pressure during the whole of labour. Next to this, footling cases are the most fatal to the child, as here the pressure on the cord commences as the umbilicus descends through the soft parts, and these have been but little distended by the descent of the feet and breech in succession. In breech cases, the mortality is less than in footling cases, because the soft parts have been distended by the passage of the nates with the feet doubled up towards the abdomen. In cases of the descent of the cord with the head, in cranial or face presentations, the pressure exerted on the cord is greater than under any other circumstances, but it is of short duration, since as soon as air can reach the mouth of the fœtus, pressure on the cord becomes of little consequence. No comparison can be made between the mortality in cases of turning and funis presentations, because the great mortality to the fœtus in turning depends on other causes as well as upon the pressure upon the cord. Certain circumstances besides the presentation exert an influence upon the mortality in funis cases. The younger the fœtus, for instance, the more safely pressure is borne, and the longer it may be continued without a fatal result. The risks of a fatal result to the child, when the funis presents in a first labour, are very great, whatever the part presenting with the cord. They are much less in the case of patients who have had many and easy labours. The danger is greater when the fœtus is male than female. The least dangerous cases of cord presentation are those in which it happens to the second child in twin cases, especially when, as is frequently the case, the second child is smaller than the first. The danger is increased when the pains are very frequent and prolonged, but when the pains are moderate, and with a fair interval, the child recovers from the effects of the pressure of one pain before another comes on. Care should always be taken to inform the friends of the patient of the danger in which the child is placed by the descent of the funis.

The principle of Treatment in funis presentation is, the removal of the cord from pressure, or subjecting it to compression for as short a time as possible. These objects may be carried out by the Reposition of the Cord within the uterus; by placing it in such a situation in the pelvis as to escape Pressure as far as is practicable; or by artificial delivery, as by Turning, or the use of the Forceps. No one method can be advised for the treatment of such cases. The principle of management being held in view, the means adopted in individual cases must depend upon the exigencies which attend them. As the mother is not in danger from this casualty, no steps should be taken to secure the child which are likely to bring the mother into danger, as this would be substituting a greater for a lesser evil.

A primary rule in the management of these cases is, the preservation of the Liquor Amnii. As long as the membranes remain unbroken, it is hardly possible for the child to be destroyed by compression of the cord, and not until they are broken should any attempt be made to replace the funis. It cannot be done effectually; the child is as yet in little or no danger; and attempts at manipulation must hazard the rupture of the membranes. The more labour progresses before the evacuation of the amnion, the shorter will be the time of serious compression, and the less the amount of compression will be from the gradual dilatation of the soft parts under fluid pressure.

The Reposition of the Cord within the uterus is the most satisfactory method of treatment we can adopt, but unfortunately it is not always practicable, or else the pains cause the renewed descent of the cord after its temporary replacement. The degree to which the cord should be returned is a matter of some difference of opinion. Sir Richard Croft recommended that the cord should be carried up into the uterus so as to hang it upon the limbs of the child. Others, as Arneth, of Vienna, advise that it should be returned above the head, and allowed to remain in the hollow formed by the neck. No doubt, the latter answers every purpose, if the cord will keep there, since children are frequently born with the cord coiled once or twice round the neck without injury, and the introduction of the hand into the uterus during labour is necessarily attended with some risk to the mother, except in the most favourable cases. Various methods of procedure have been advised for the reposition of the cord. The most simple instrumental method is by the use of a whalebone needle or bodkin, and a loop of tape. This, as Dr. Ramsbotham remarks, has the advantage of being made extemporaneously in a few minutes in the lying-in room. A flat piece of moderately flexible whalebone, about half an inch in breadth and a foot in length, and a yard of tape, are all that is necessary for its construction. An eye or hole should be made near one extremity of the whalebone, large enough to allow the tape to run in it readily. In using it a loop of the tape should be passed through the eye, and the end of the loop of funis should be included in the loop of the tape, when the ends of the tape should be drawn so as to bring the loop of funis towards the eye of the instrument, and to retain it there without exerting pressure enough on the cord to interfere with the placento-fœtal circulation. The whalebone should now be passed into the uterus by the side of the presenting part, in an interval between the pains, and after having been kept there during a pain, the tape may be brought away by drawing at one of the strings, and the slip of whalebone afterwards removed. If this noose be relaxed a little, so as to avoid strangulation of the cord, there can be no harm in leaving the instrument in the utero-vaginal canal, as it offers no impediment to the progress of labour. Michælis, of Kiel, recommended that a large-sized, male, gum-elastic, stiletted catheter should be used for the same purpose. He advised that the ligature should be passed *through* the loop of funis, when, being drawn loosely to the eye of the catheter, and the stilette being introduced only so as to avoid the possibility of doing injury, the instrument is to be passed above the head or presenting part, and left there, the stilette being withdrawn, until the completion of labour. But at the present time, Michælis has, I believe, abandoned his ingenious instrument for the use of the fingers. I see no reason why the cord should not, when it is sufficiently low to admit of manipulation, and when it returns after reposition, be pierced with a needle and thread or worsted, in such a way as to escape the vessels, and be tied to the end of a slip of whalebone, which might then be returned, and kept *in situ* until the completion of labour. But in ordinary cases, the accoucheur can do more with the hand and fingers than with the most ingenious instruments. In returning the cord with the hand, two or three fingers of the right or left hand, as may be most convenient, should be introduced by the side of the head or presenting part, and with the tips of the fingers the prolapsed portion of the cord, being gathered together, should be pressed upwards, during an interval of freedom from pain, and retained above the presenting part until the next pain comes on. When the uterine contraction of the uterus reaches the fingers, they should be withdrawn, so as, if possible, to leave the funis within the grasp of the uterus. The contraction of the uterus will, if the operation be successful, sweep the cord upwards, instead of expelling it. It may, however, come down again when the uterus is relaxed, or it may be extruded by the succeeding pains, and require other attempts of the same kind to keep it above the presenting part. Drs. M'Clintock and Hardy, whose directions for the reposition of the cord are very excellent, advise that in attempting its reduction by the hand, the woman should lie upon the side opposite to that on which the cord protrudes; that is, if the cord be felt on the right side of the pelvis, the woman should lie on her left side, and *vice versâ*. They also recommend that before its return it should be drawn, if possible, towards the pubes, as the shallowness of the pelvis in this situation renders the return of the procident cord more easy than when it lies towards the sacrum. As long as the pulsation of the cord is vigorous, we should not be deterred by difficulties in attempting its reposition, as this is sometimes effected only after repeated trials.

When, in spite of our endeavours, the cord slips down again at every pain, means are recommended for keeping the funis above the presenting part. This may sometimes be done by passing a wedge of sponge up after the cord, as recommended by Dr. Collins, so that when the pains come on, the sponge is compressed between the presentation and the walls of the canal, and the further descent of the funis prevented. Sometimes, where the extent of funis prolapsed is considerable, and the cord thin, so as easily to slip down, some authorities have recommended that it should be gathered together, and put in a soft leather pouch or bag, the mouth of which should be drawn together sufficiently to keep the mass in the bag, but not to constrict the cord. The bag is then to be passed up within the os uteri by the fingers. This manœuvre substitutes a considerable mass for the thin lubricious cord, and is less likely to be protruded after its reposition. The bag remains, when the proceeding is successful, until the child is expelled. This operation is, however, difficult, and one now rarely, if ever, attempted.

When the cord cannot be returned or retained within the uterus, it becomes necessary to place the prolapsed cord in such a position in the pelvis that it may be compressed as little as possible during the passage of the child. It should be brought, as recommended by Dr. S. Merriman, into the oblique diameter of the pelvis, opposite to that which is occupied by the child. In a vertex case in the first position, with the head in the right oblique diameter, the funis should be kept as closely as possible to the left sacro-iliac synchondrosis, in the second position, with the head in the left oblique diameter, and in both cases the rectum should be emptied, but particularly the first, as the cord then lies between the side of the child's head and the rectum of the mother. In other presentations, when no other assistance can be rendered or seems necessary, the cord should be shifted as far as possible into that part of the pelvis which is least occupied by the child. It should rarely, if ever, be brought towards the pubic arch, as in this position the effects of pressure are generally very great. In cases of large pelvis in multiparous women, when the pains are moderately strong, and occurring at proper intervals, the passages being well relaxed, and labour completed in a short time, the arrangement of the position of the cord will often be sufficient to secure the safety of the fœtus. In primiparous women, or where there is rigidity of the soft parts and a small pelvis, such measures are of little or no avail in arresting the long effects of pressure.

The propriety of Turning in cases of funis presentation, combined with any other part of the child than its pelvic extremity, is one of the vexed questions of obstetrics. Many eminent authorities have commended, and others condemned, this practice. The truth is, that the fitness of turning for any particular case requires great tact and judgment, and admits of no reduction to rule. Mauriceau performed it in a number of cases with great success in saving the child. So did Boivin and Lachapelle, and so have many contemporary accoucheurs. The strong point in the operation is, that it enables us to complete delivery in a shorter time than would otherwise be the case, and in this way the chances of safety to the child are increased. The weak points are, that the operation is not perfect, considered in relation to the object we have in view. It does not deliver the child from danger, but substitutes the risk of pressure from the shoulders and head upon the cord after the passages have been distended by the breech, for the primary pressure of the cord by the head without any previous distension of the parturient canal. Of course, in arm cases in which the funis presents, version is performed, but with reference rather to the arm than the funis complication. It would be very interesting to have a statistical comparison between the results to the child in those cases in which the funis presents in combination with the pelvic extremity and those in which it presents with the cephalic end of the fœtus. But I believe no such statistic exists, and, in its absence, we must consider the question of turning upon other grounds. In this country, the tendency, in recent years, has been to consider, with Dr. Robert Lee, that turning should rarely be practised. I believe the cases in which version is in proper operation, simply on account of funis presentation, are rare; but there are other contingencies, such as moderate contraction of the pelvis, cases where the pelvis is capacious, where other means have been tried in vain, and where turning can be easily performed, but there is evidence that the child is passing into a dangerous state, in which the operation of turning will save fœtal life without more than very slight hazard to the mother.

In cases where the labour has sufficiently advanced, the use of the Forceps or the Vectis, the administration of the ergot of rye or a stimulating enema, are of great value in completing delivery. These means are to be reserved for those cases in which prolapsus occurs, or continues, when the head is low in the pelvis, and the os uteri is fully dilated. In cases where the funis is complicated with breech or footling presentation, the means described when speaking of breech cases, for hastening delivery and preserving the child, should be practised.

When the cord remains pulseless and flaccid for a considerable time, the child is already dead, and we may save ourselves from anxiety or attempts at delivery. We must not, however, be in too great a hurry to consider the child beyond hope. Cases are on record in which the cord being pressed upon from above, the loop hanging down is pulseless from pressure on the arteries, but the heart may beat for a considerable time, and the child ultimately be born alive. Sometimes in the conduct of these cases, the cord will cease to pulsate and the heart of the child will fail, but nevertheless, from some alteration of position, the heart rallies and the pulsation of the cord is restored. Those cases in which the cord comes down with the head, most easily admit of the reposition of the cord, where, as in breech cases, the cord has a great tendency to come down after its replacement. Although when the cord comes down before the rupture of the liquor amnii, the child is in no danger as long as the membranes remain intact, such cases are very dangerous to the child from the length of time during which it is generally subjected to pressure. On the contrary, when the cord descends towards the completion of labour, the risks of the child are less, because we generally have it in our power to complete delivery within a given time in such cases. The length of time the cord may prolapse in some cases without destroying the child, is extraordinary. I once knew a case where it was prolapsed three whole days, but was afterwards reposited, and the child was born alive.

LECTURE XXXI.

DEFORMITIES OF THE PELVIS.

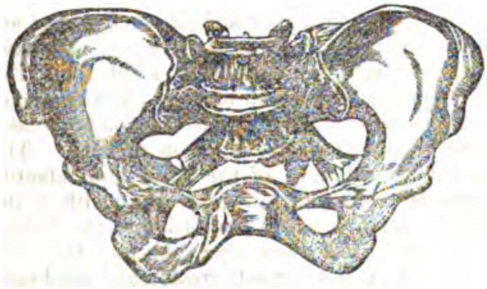
Gentlemen,—Distortions of the pelvis are amongst the most serious dangers which await the parturient female and her unborn offspring. The severer forms of deformity are comparatively rare, but slighter deviations come under our observation pretty frequently, especially in highly-civilized, over-crowded, and ill-fed populations. In the case of minor deformities, or alterations of dimension, it is, in most instances, the child only which suffers. As obstetricians have gradually perfected themselves in the diagnosis of pelvic deviations, it has become customary to resort to operative procedures at an earlier stage of labour than formerly, and thus much unnecessary pain and risk have been saved to mothers. Graver forms of distortion of course involve operations attended with much risk to the parent. Hysterotomy, in this country at least, has had a very fatal history; and when the pelvis is greatly contracted, evisceration and piecemeal extraction of the fœtus is a protracted and extremely dangerous operation. The best safeguard against errors of practice, whether they consist of premature efforts to deliver, or of timorous delays, is to be found in an exact knowledge of what deviations may present themselves; how they may be recognised; how their extent may be determined approximately; and what influence they are likely to exert upon the progress of labour.

The conventional phrase, "deformities of the pelvis," must be held to imply something more than its etymology contains. By it we understand all deviations from the standard size and form, of whatever nature they may be, and however they may have been effected. Many attempts have been made to treat the subject of pelvic deviations systematically. Some writers have classified them according to the degree of distortion, and others according to the kind of distortion; but it is impossible to arrange them together in the same satisfactory manner as a naturalist groups plants and animals. It is better to dispose of the different deformities met with one by one, to indicate their pathological and mechanical relations, to point out how they may be recognised, and afterwards to subjoin such practical conclusions as may seem most warranted by the accumulated experience of the past. An immense variety of deviations from the natural size and form of the pelvis have been met with:—contractions of the brim, cavity, and outlet, in various directions, caused either by disease, tumours, or fractures; arrest of development, which gives us a pelvis of the infantile type; equable enlargement and equable contraction; the masculine type of pelvis; funnel-shaped pelvis; flatness of the sacrum; and oblique distortion of the pelvis.

The most important pelvic deformities, perhaps, with which we are acquainted, are those which arise from Rachitis, or from Malacosteon. In the first of these diseases, distortion is produced during infancy, or at least some period anterior to puberty; malacosteon, or osteo-malakia, on the contrary, is a disease of adult life. The effects produced by each of these diseases are, of course, somewhat different, although in both cases there is softening and distortion of bone. The mechanical relations of the adult and infantile pelvis are somewhat different—the width of the infantile pelvis is less in proportion to the height of the individual than after puberty; the obliquity of the pelvis is much greater, and the heads of the thigh bones are thus in every way brought nearer to the line of gravity. The softening which takes place in malacosteon is more equable than that of rachitis—that is to say, the whole structure of a bone is similarly invaded by it, while in rickets the alteration of intimate structure affects particular portions of a bone; and, except in extreme cases, leaves comparatively solid osseous districts, which take little or no share in the torsion produced. In accordance with these facts, it will be found that ricketty pelves affect one kind of distortion, and malacosteon pelves another. In the first case, the deformity produced is generally of the elliptical variety, the sacro-pubic diameter being decreased, and the lateral very much increased, relatively, and sometimes absolutely. In malacosteon, on the other hand, a reverse condition obtains—the deformity is angular, the pelvis is rostrated or beaked, the sacro-pubic diameter is increased relatively to the transverse, and the transverse diameter diminished absolutely. This statement, however, must only be taken as a general one; for there are several cases on record, which show incontestably that the angular variety of distortion may take place as a result of rickets. A most remarkable case is recorded by Naëgelé, in which all the characters of the osteo-malacious pelvis obtained; but there was not the slightest doubt that the disease which produced the deformity was rickets. The same authority had observed two other cases, which contradicted the established belief that rachitis was not productive of angular deformity of the pelvis; and he refers to several other cases collected by competent observers. Stoltz communicated to him the case of two children, of the ages of one and eight years respectively, in whom, although rickets had been undoubtedly the disease, yet the pelves were altogether of the form generally supposed to be peculiar to osteo-malakia. Otto, Wallach, and Von Krumbholz, mention exactly similar cases; and Burns admits the existence of angular deformity in connexion with rickets. An oblong deformity of the pelvis is sometimes met with where there is a backward curvature of the spine. In this case, the sacro-pubic diameter of the brim is very much increased; the antero-posterior diameter of the outlet is proportionately decreased, but not always.

The accompanying engravings are illustrations of characteristic specimens of ricketty and malacosteon pelves respectively:—

FIG. 127.

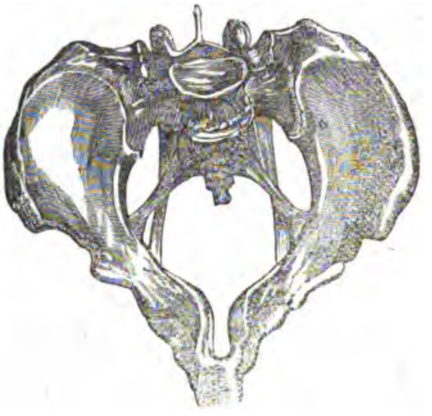


Pelvis deformed by Rachitis.

Fig. 127 is a representation of a ricketty pelvis affected with the usual ovate deformity. The sacrum in such cases is placed more horizontally than natural; the promontory projects forwards and sinks, as it were, into the cavity of the pelvis, so as to bring the fourth or fifth lumbar vertebra into the position naturally occupied by itself. The sacrum is somewhat diminished in depth, though not so much so as in the case of malacosteon distortion; its vertical and lateral curvatures are both diminished, and the bone is consequently very much flattened. The apex of the sacrum and the coccyx are bent acutely forwards and inwards. The wings of the iliac bones are somewhat flattened and everted, and carried bodily forwards towards the anterior part of the pelvis. The symphysis pubis is sometimes projected inwards, so as to give the inlet of the pelvis an hour-glass shape. The tuberosities of the ischia are separated so as to increase both the transverse diameter of the outlet and the width of the sub-pubic arch.

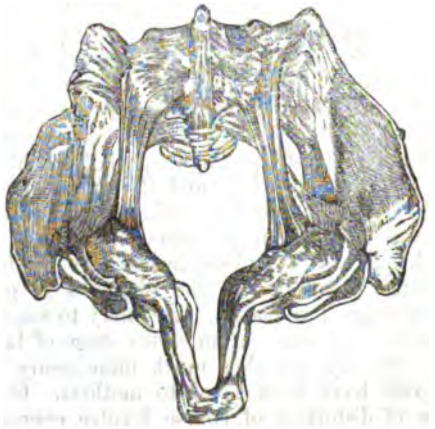
Figs. 128—31 are malacosteon pelves. They are specimens of the oblong rostrated variety. Figs. 130 and 31, are representations of the pelvis of Isabella Redman, seen from above and below. The general effects produced in malacosteon are, narrowing of all the diameters of the pelvis, but especially of the transverse, whether of the brim, cavity, or outlet. The antero-posterior diameter of the brim, or rather the distance from the promontory of the sacrum to the symphysis pubis, is, relatively

FIG. 128.



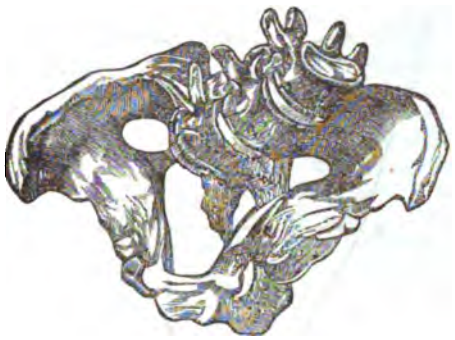
Rostrated variety of Malacosteon Pelvis, seen from the brim.

FIG. 129.



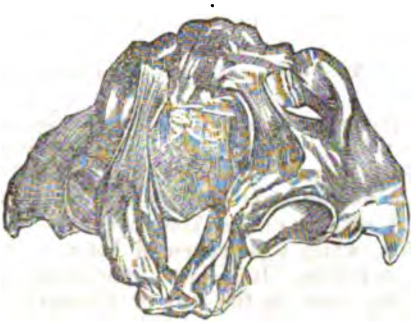
Rostrated Malacosteon Pelvis, as seen from the outlet.

FIG. 130.



Malacosteon Pelvis in extreme deformity, seen from the brim.

FIG. 131.



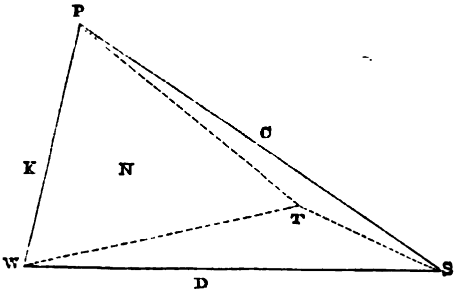
The same Malacosteon Pelvis, seen from the outlet.

to the transverse diameter, very much increased; absolutely, it is somewhat less than natural. The pubic arch is very much narrowed. The tuberosities of the ischia are approximated. The sacrum is very much incurvated, and the acetabula are much closer together than in the normal pelvis. The ilia, instead of being carried bodily forwards as in the ricketty pelvis, are folded up, and the iliac fossa is made to resemble an oblique furrow running from above downwards.

Dr. Matthews Duncan, of Edinburgh, has elucidated the difference between ricketty and malacosteon pelves, most admirably, in a brief but very able paper in the *Edinburgh Medical Journal* for April of the present year. Numerous diagrams are given by him, which convey more distinctly to the mind the nature of the deformities they are intended to illustrate than can be done by any mere written description. Some of these diagrams are copied below, and others are modified with a view to their simplification. In the first place, Dr. Duncan gives profile sections of the pelvis, or rather of that part of the true pelvis which is above the middle of the third piece of the sacrum. The superior plane of the pelvis is considered as divisible into two parts, one posterior and another anterior, separated from each other by a line drawn across the pelvis from one ileo-pectineal eminence to another.

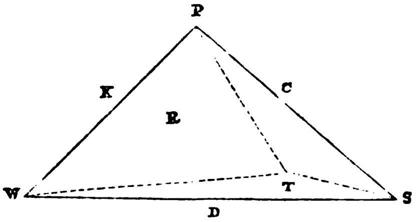
The same letters apply to each figure, except that *N* is a section of the normal pelvis, *R* of the ricketty pelvis, and *M* of the malacosteon pelvis.

FIG. 132.



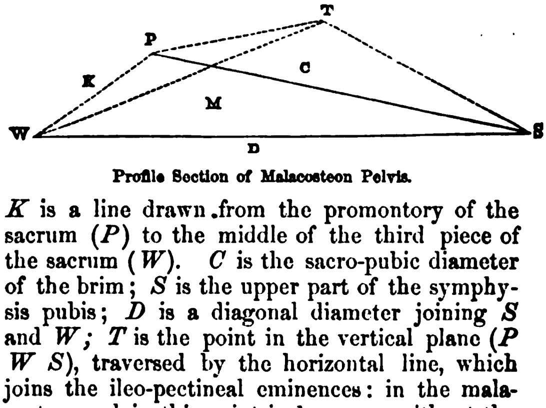
Profile Section of Natural Pelvis.

FIG. 133.



Profile Section of Ricketty Pelvis.

FIG. 134.



Profile Section of Malacosteon Pelvis.

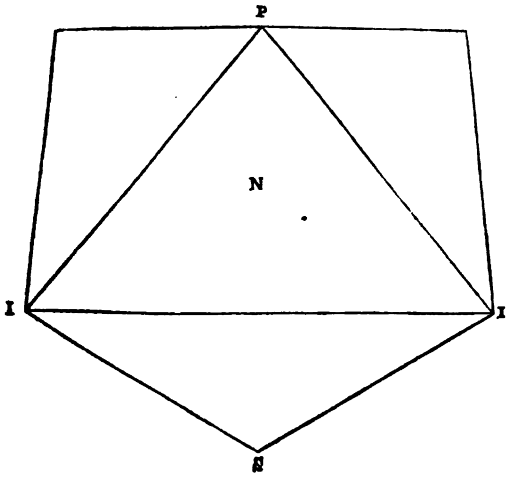
K is a line drawn from the promontory of the sacrum (*P*) to the middle of the third piece of the sacrum (*W*). *C* is the sacro-pubic diameter of the brim; *S* is the upper part of the symphysis pubis; *D* is a diagonal diameter joining *S* and *W*; *T* is the point in the vertical plane (*P W S*), traversed by the horizontal line, which joins the ileo-pectineal eminences: in the malacosteon pelvis, this point is, however, without the plane. The dotted lines, *T P*, *T S*, show the relations of the two halves of the plane of the brim to each other; and the line *T W* shows the relation of the middle of the ileo-pectineal line to third piece of the sacrum. The distance between *T* and *C* in each case helps to illustrate the nature of the ilio-pubic angle. The following table will show the measurements in each case, and develope their essential differences:—

	Normal Pelvis. Millimetres.	Ricketty Pelvis. Millimetres.	Malacosteon Pelvis. Millimetres.
Length of the line *C*	118	74	104
" *K*	68	66	38
" *D*	112	104	134
" *T P*	78	50	49
" *T S*	40	28	62
" *T W*	Nearly the same in each variety.		
The distance of *T* below *C*	8	11·5	0
The distance of *T* above *C*	0	0	18

"From these measurements," Dr. Matthews Duncan observes, "it is evident that the two halves of the plane of the brim, which, in the normal pelvis, are almost directly continuous, form with one another, in the ricketty pelvis, an angle open above, and in the malacosteon pelvis, an angle open below—in both cases of about 141°."

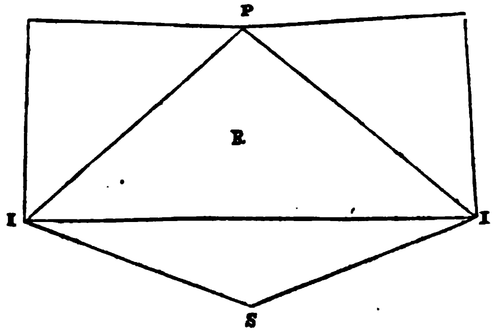
The three varieties of pelvis are still further compared by studying transverse or horizontal sections. The two halves of the plane of the brim are now regarded as continuous. As before, *N* is the normal, *R* the ricketty, and *M* the malacosteon pelvis; *P* is the promontory of the sacrum in each case; *S* is the symphysis pubis; *I I* are the ileo-pectineal eminences, joined by the line which cuts the vertical plane (*P W S*) in the first series of figures, at the point *T;* and *P I I* are triangles constructed upon this line. Comparing these triangles, it will be seen at once that the base is very much the same, whether the pelvis be normal or ricketty, but that in the latter the apex has approached the base to a considerable extent. In the malacosteon pelvis, the points *P I I* have all approached each other very much, and the triangle included by the lines which join these points is much smaller than in either of the other pelves. These sections illustrate also the rostrated form of the anterior half of the pelvis, and the folding of the iliac wings in malacosteon; they also indicate the sinking forward *en masse* of the ilia, which was spoken of before as taking place in rickets. It is almost unnecessary to add anything more in the way of illustration; the diagrams almost explain themselves.

FIG. 135.



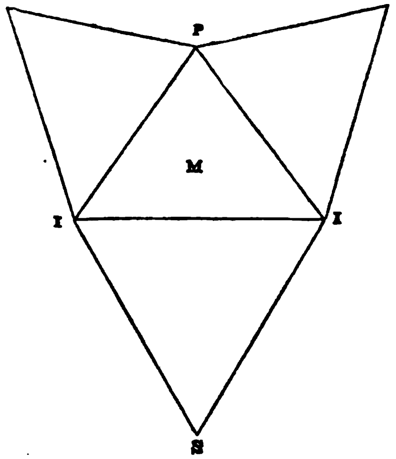
Transverse Section of Normal Pelvis.

FIG. 136.



Transverse Section of Rachitic Pelvis.

FIG. 137.



Transverse Section of Malacosteon Pelvis.

The pathology of the diseases which result in the two foregoing species of deformity is of considerable interest. There are many points of analogy between the intimate conditions of the bones in each case, but there are variations in the details which affect the progress, terminations, and alliances of the morbid conditions. As a general statement, however, it may be said, that both in the case of rachitis and osteomalakia the morbid processes partake very much of the nature of inflammation.

Rachitis may be divided into three distinct periods. The first is one of rarefaction, as it is called by French pathologists; or in other words, the structure of the bone opens up. In the second period, there is something deposited, and hence this has been called the period of organization. If the disease tends towards recovery, the third stage, or period of consolidation, is established; if, on the other hand, the morbid processes are pushed on to their final developments, destruction of osseous tissue is in a great measure consummated, and the subject of the disease perishes either by hectic fever, marasmus, or some intercurrent disease, such as pneumonia or diarrhœa; there is generally tubercular deposit in the organ affected. In the first stage of the disease, the bones preserve their normal form and direction, but their consistence is somewhat diminished, and they are more elastic. The periosteum becomes much more vascular, is thickened, and adheres to the bone more closely than natural. On stripping off the periosteum, the bone will be found moist, uneven, and destitute of its usual smooth aspect. Between the surface of the bone and the periosteum, there is a deposit of gelatinous, pinkish matter. Upon examining the exterior of the bone with a glass of small magnifying power, after this matter has been washed off, the Haversian canals will be seen to be much more distinct and of greater calibre than natural, and they are filled with the gelatinous material. When first effused, this is more fluid, and it only assumes the gelatinous condition after a certain time. M. Guerin has examined this deposit microscopically, and says that after the exudation in question has become gelatinized, organization takes place, somewhat after the manner of false membranes, and that myriads of small vessels may be distinguished crossing each other, and forming an inextricable web. The changes which occur in the bones are more pronounced in long than in flat bones, and are still more remarkable in the epiphyses than in the shafts. In all bones, however, and throughout the whole structure of each bone, the areoles are widened, the structure is loosened, and a slight increase of volume takes place. The medullary canal, as well as the interspaces between the solid elements of the bones, are filled with the sanguinolent, greasy matter referred to above; the colour has been compared to that of currant-jelly. The precise spot at which the histological changes referred to are most prominently developed is, however, just where the shaft and epiphysis of the bones join, or in that portion of cartilage which is undergoing osseous transformation. The flat bones become somewhat swollen.

Thus the phenomena of this period are—first, vascularization of the bone and periosteum; secondly, slight swelling of the epiphyses and flat bones; thirdly, opening up of the osseous tissue, due to effusion of the sanguinolent matter, and absorption of the calcareous particles of the bones; and fourthly, softening of the bone, diminution of specific gravity, acquisition of unnatural elasticity, and the first indications of yielding to pressure. The second stage of the disease is marked by a still greater increase of volume, especially towards the extremities in long bones; this is more apparent than real, but nevertheless it will not do to attribute the whole of the apparent increment of the epiphyses to atrophy of the muscles, above and below the articulations. The bones now begin to curve and yield to pressure in a very marked manner. Some of the curvatures are the result of the weight of the body itself; others are the result of muscular action, and the habitual posture of the child will materially affect the character of the distortions, especially about the pelvis. The vascularity and softening of the bones, and the opening up of the lamellæ, keep pace with the continued effusion which obtains as the disease advances. The effused matter, wherever it is poured out, becomes adherent to the surfaces with which it is in contact, and is transformed, especially towards the extremities of the bones, into a reticular, elastic, reddish tissue, like a fine sponge. It is curious to observe that the convex aspect of the bones differs very much from the concave; and that it is somewhat granulated, and is sonorous when struck. The concave surface, on the contrary, is of the consistence of cartilage, or of a bone softened in acid. The touch, as well as inspection, reveals a totally different composition, and a dense but soft and elastic tissue may be recognised adhering intimately to the under surface of the periosteum; this tissue is thick on the concave surface of the bone, but is insensibly lost on the lateral aspects. The calibre of the medullary canal is considerably diminished. If the disease tends towards recovery, absorption of the calcareous portions of the bones is reduced within natural limits, and solidification takes place. The reticular tissue becomes dense, and spiculæ of bone are found in it; the lamellæ thicken, and ossification is carried on with great vigour. Towards the extremities of long bones the adventitious reticular tissue is in a great measure re-absorbed. Now, the curvatures of the bones diminish to a certain extent, but this depends upon their degree, intensity, and the development of the subject of the disease; if the curves have not been very great, and reparation occurs early, very little trace may be left of the disease, but opposite conditions can hardly fail to result in permanent deformity. Should the disease pass on to its most untoward termination, osseous structure is almost entirely destroyed, and the intimate condition of the skeleton is very similar to that which obtains in osteo-malakia. M. Guerin has named this condition "rachitic consumption." A most elaborate account of the pathology both of rickets and osteo-malakia is to be found in M. Beylard's work on these subjects, recently published, of some parts of which the foregoing details are an abridgment.

The following rough analysis of the constituents of bones in rachitis, as compared with the normal state, will indicate as clearly as possible the nature of the organic defect which results in torsion and fracture:—

Rachitis—	Organic matter.	Inorganic matter.	Total.
Rokitansky	81	19	100
Davy	74	26	100
Bostock	80	20	100
Normal bone in the child—			
Schreger	50	50	100

Osteo-malakia would appear to occur in two forms. In one, fragility of the bones is most apparent; in the other softening. In the first variety numerous and repeated fractures occur in nearly all the long bones; in the second, distortion is the characteristic result. Syphilis, cancer, and a rheumatic diathesis, have each and all been claimed by various writers as allied diseases to the one in question. There is no doubt that great fragility of the bones occurs in the advanced stages of cancer, and sometimes also in syphilis when it has become constitutional, but it can hardly be said that mollities ossium, properly so called, has any special relations with other constitutional *diseases;* if any one condition is more constantly related to it than another, it is perhaps that of utero-gestation frequently repeated. In every gestation the system of the mother has to part with a large quantity of osseous matter for the development of the fœtus. The simple mollities ossium appears to be more like advanced infantile rickets, and fragilitas ossium is, according to Mr. Paget, a true fatty degeneration of bone. The worst cases of the disease are ushered in by acute pains all over the body; the urine is loaded with a whitish deposit (phosphatic), and a general cachexia appears to have invaded and taken possession of the system. As a general rule, the disease is fatal after repeated fractures of the bones have taken place, or the skeleton has become strangely distorted. The familiar engraving of Madame Supiot illustrates the extent to which the bones will yield in extreme cases. The rule as to fatality, however, is not an absolute one; for Naëgelé relates a most remarkable case of a woman who had six healthy living children at the full period; between her sixth and seventh labours she became the subject of malacosteon, and such distortion of the pelvis took place that delivery had to be effected by the Cæsarian operation; the patient died. The most remarkable point in the case was that the pelvis had regained its natural density. Thus death was the result of the operation for delivery, and there is no reason to doubt that the woman would have entirely recovered had pregnancy not taken place, or the operation been rendered necessary by the previous distortion. When the disease occurs in women who are breeding, it is frequently progressive, increasing with each pregnancy. In a case reported by Dr. Cooper in the fifth volume of "Medical Observations and Enquiries," the deformity increased in such a manner as to reduce the sacro-pubic diameter of the pelvis to an inch and a quarter in the last pregnancy; the Cæsarian operation was performed, and the patient died. Barlow reports eight analogous cases in his Essays. The effects produced upon the bones in the form of disease under consideration are, alterations of form, weight, and consistence, and to these may be added fractures and alterations of the intimate structure of the bone. A brief sketch of these particulars must suffice. The alterations in form are infinitely various according to the intensity of the malady, the action of the various muscles attached to the bones, the use made of the limbs by the sufferer, the positions habitually assumed, and sometimes modifications are produced by their supporting apparatuses. Long bones curve at first in the direction of the normal flexures and at their weakest points; in a more advanced stage they assume S- or Z-shaped irregularities of form. Flat bones fold up, as it were, and are also compressed by superincumbent weight. Fractures take place generally in a transverse direction in long bones, and, as the force applied is comparatively feeble, the periosteum does not necessarily rupture. M. Buisson met with a case in which there was an immense number of fractures, sixty-three; nearly all were more or less undergoing reunion. Wilson has observed that in the same subject fractures unite, while others take on hardly any reparative action; false joints sometimes result from these ununited fractures. The specific gravity of bone is very much diminished in this disease, not only by the removal of a large quantity of earthy matter, but by the superaddition of a quantity of fat, amongst which are the ordinary fat of the human body and crystals of margarine separately aggregated together. Healthy adult bone has a specific gravity of from 1·97 to 1·87. Rokitansky gives ·721 as the specific gravity of bone in a case of mollities. Chemical analysis shows an enormous diminution of earthy matter, The two following analyses are by Berzelius and Rokitansky respectively:—

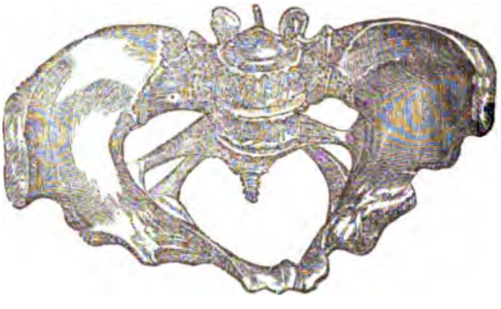
	Animal matter.		Inorganic matter.		Total
Healthy adult bone........	33·30	...	66·70	...	100
Bone affected with mollities	76·20	...	23·80	...	100

In Mr. Wood's articles on the Pelvis, in the "Cyclopædia of Anatomy and Physiology," there is a table of the respective amounts of earthy matter in various parts of the skeleton; and he has pointed out a fact which is very interesting—viz. that of the bones of the pelvis, the pubes is that which loses most of its earthy constituents in malacosteon. This accounts, he says, for the rostrated form of the pelvis in certain cases. The intimate changes which take place are very analogous to the more advanced stages of infantile rachitis. Some variation occurs according to the kind of mollities. In general, it may be stated, that the periosteum is preternaturally vascular, thickened, and easily detached; it draws its prolongations into the Haversian canals along with it when detached, and sometimes spiculæ, or granules of bone, adhere to it. At other times, the periosteum is very adherent; and, again, it is encrusted, as it were, on its inner surface, with a thin lamina of bone, and constitutes all that remains of a skeleton. In the celebrated case of Madame Supiot it was quite natural, notwithstanding the extremity to which the disease had advanced. The variable accounts given of the state of the periosteum may perhaps depend upon the different stages of the disease attained in the different specimens reported upon. The bone itself undergoes various changes, which consist of an effusion of gelatinous matter, like that poured out in rachitis. This occupies the Haversian canals, and the medullary canal also; and as the lamellar structure is opened up, occupies the spaces between the laminæ. The areoles of the cancellated tissue are also filled with this matter; and the partitions between them are absorbed as the disease advances. A large quantity of fat is to be found in the grumous contents of the bony cylinder; and Mr. Paget is of opinion, that in a great majority of cases this quasi-gelatinous matter is indeed only disguised fat. Before the bones are reduced to this extreme point of degeneration, they may be cut with a knife, and may be even indented by the finger nail. The laminæ, or bone corpuscles, would appear to be generally enlarged, and the canaliculi either shortened or altogether absent. Thus there is a general opening up of the structure of the bone, a vascularization and thickening of periosteum, and an effusion of adventitious matter, as in rachitis. The differences would appear to be in the occasional absence of anything abnormal in the periosteum, in the extremely fatty nature of the effusion, the absence of that fibroid organization by which the bone is supplemented, as it were, in rachitis, in the disease attacking all parts of a bone at once, and, finally, in there being, in a great many cases, some constitutional cachexia, or cause of debilitation.

A most interesting and important variety of pelvic deformity, is the "obliquely distorted pelvis," first described by Naëgelé.

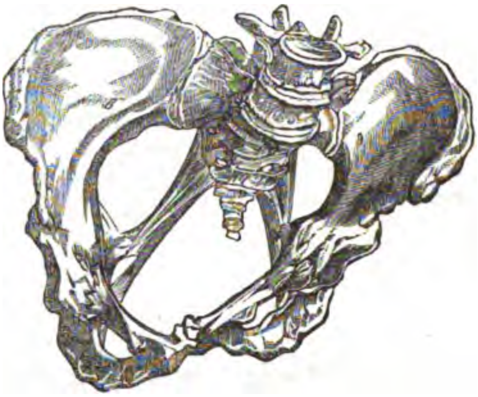
This eminent observer published a most laborious memoir upon the obliquely distorted pelvis, in which he described most accurately and minutely no less than thirty-seven pelves affected with this malformation. Those who desire to study the deformity will find an excellent translation of the original work by Dr. Christie of Aberdeen. It will, of course, be impossible to follow Naëgelé throughout his laborious dissertation. We must be contented with reviewing the general characters of the obliquely distorted pelvis, pointing out the diagnosis of it in the living subject, and considering what influence it may have upon labour, and what are the pathological or other conditions out of which it arises. The following characters then are general: 1. Anchylosis, or rather fusion, of the sacrum, with one or other of the iliac bones. 2. Imperfect development of that lateral half of the sacrum which is fused with the adjoining iliac bone. 3. Narrowing of the os innominatum, and diminished width of the great sacro-sciatic notch on that side on which the anchylosis of fusion exists. 4. Deflexion of the whole sacrum towards the anchylosed side, and turning of the anterior surface of this bone in the same direction. 5. Displacement of the symphysis pubis towards the opposite side to that on which the sacro-iliac fusion obtains. 6. Diminished excavation, or greater planeness, of the inner surface of that lateral half of the pelvis which is on the same side as the anchylosis. 7. Diminished curvature of the posterior half of the linea ileo-pectinea on the side opposite to the anchylosis, and increased curvature of its anterior half. 8. Increase of that oblique diameter which extends from the anchylosis to the acetabulum of the other side, and diminution of the remaining oblique diameter. 9. The distance of the promontory of the sacrum from the acetabulum, on the anchylosed side, is much less than the same measurement on the opposite side; and the same is true of lines drawn from the promontory of the sacrum to either ischial spine. 10. Convergence of the walls of the pelvis inferiorly, approximation of the spines of the ischia, and narrowing of the sub-pubic arch. 11. A vertical plane, coinciding with the sacro-pubic diameter of the pelivs, does not correspond with the mesial plane of the body, but is deflected so as to make an angle, with a vertical transverse joining it posteriorly, greater than a right angle on the anchylosed side, and less than a right angle on the opposite side.

FIG. 138.



Pelvis obliquely distorted to a moderate degree.

FIG. 139.



Pelvis obliquely distorted to a great extent.

The diagnosis of an obliquely distorted pelvis is not particularly difficult, now that we are in possession of such exact information as to the nature of the deviation. Notwithstanding this circumstance, such a distortion, unless very much exaggerated, is extremely liable to be overlooked. The subjects of this deformity are, generally speaking, well shaped in other respects; there is no very striking diminution of their breadth across the pelvis; they are as active as other people; and there is, in fact, nothing to call attention to them, until obstructed labour reveals the condition of their pelves; always provided, as before mentioned, that the deformity is not extreme. The gait is affected when much distortion obtains. Should any suspicion of this distortion arise, we may seek for information in three ways: first, by vaginal examination; secondly, by external measurements with Baudelocque's "compass d'epaisseur;" and thirdly, by letting fall certain vertical lines from points of the surface of the body, whilst it is in an erect posture. Vaginal examination will, perhaps, yield less information than either of the other means of exploration. The promontory of the sacrum is generally pretty well out of reach; the cavity appears roomy enough; and the narrowing of the sub-pubic arch and convergence of the parietes of the pelvis inferiorly, are not sufficiently pronounced to be readily appreciated by the *toucher.* More reliance may be placed on external measurements, taken from certain easily recognised osseous points, to other similar ones, generally on the other side of the pelvis. From the description given before of the general characters of the kind of pelvis under consideration, it will be seen at once that the following rules are merely corollaries of the statements made then.

The following distances should be taken and compared:—

1. From the tuberosity of the ischium on one side, to the posterior superior spinous process of the ilium on the other side.
2. From the anterior superior spinous process of one side, to the posterior superior spinous process of the other side.
3. From the spinous process of the last lumbar vertebra, to the anterior superior spinous process of each ilium.
4. From the trochanter major of one side, to the superior posterior spinous process of the ilium on the other side.
5. From the symphysis pubis, to the superior posterior spinous process of each ilium.

It is quite unnecessary to state what are the normal measurements of each of these distances; the significant fact is their relative length. If there is any very marked difference between the corresponding measurements—say, on an average, half an inch to an inch—there is reason to suspect oblique distortion; and the side on which the anchylosis is may be determined by bearing in mind the following short rule—viz., that in measurements 1, 2, 4, and 5, the *posterior* extremity of that measurement which exceeds its fellow is on the side of the anchylosis; and in measurement 3, the *anterior* extremity of the shorter measurement is on the same side as the anchylosis. The last method of examination is, to let a plummet line fall from the symphysis pubis in front, and another from the spinous process of the last lumbar vertebra behind, the body being erect. If the pelvis be obliquely distorted, these lines will not both fall in the mesial plane of the body, and the anchylosis will be found on the opposite side to that towards which the anterior line tends.

The causes of oblique distortion have been stated to be, arrest of development, and fusion of the sacrum with the ilium, and anchylosis, in consequence of inflammation of the sacro-iliac joint. Naëgelé leans to that view of the case which considers the deformity as the result of an original anomaly of development, and for the following reasons:—1. Because the fusion of the sacrum with the ilium is complete, as well in reference to the internal structure of the bones as to their external condition. 2. The breadth of the "os innominatum" of the affected side is affected, as well as its length. 3. Synostoses of other bones occur, as original anomalies of development, and are usually accompanied by deformity. 4. The obliquely distorted pelves are all very much like each other; and 5. Because no history of disease has ever yet been traced in a case of oblique distortion. Dr. Rigby rather inclines to the inflammatory theory; but anchylosis has occurred without producing the deformity; so that it is obvious that whether anchylosis from disorganization, &c., of the sacro-iliac joint plays a part in bringing about the deformity in question or not, it must at any rate be supplemented by some other hitherto undiscovered condition.

The influence exerted by oblique distortion on the progress of labour will depend upon its degree, and in part also upon the presentation of the fœtus. The most favourable presentation will be the apposition of the long diameter of the presenting part to the longest oblique diameter of the brim. Supposing the head, in a vertex case, to have entered the cavity of the pelvis, an obstacle will now be opposed both to its descent and rotation, by the approximation of the spines of the ischia to each other; and the want of space anteriorly, in that direction towards which the occiput rotates, would be a still further impediment. Emergence of the head would be opposed by the narrowing of the transverse diameter of the outlet, and by diminution of the sub-pubic arch. Naëgelé considers this distortion as important as any other, because there are no circumstances indicative of deformity sufficient to arouse suspicion beforehand, because it is frequent, occurs in healthy, well-formed women, has never yet been recognised in a living female, and, *so far as is known,* has always proved fatal to both mother and child.

A Clinical Essay
ON THE
TREATMENT OF ULCER OF THE STOMACH.

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PHYSICIAN TO THE ROYAL FREE HOSPITAL, LECTURER ON PHYSIOLOGY AT ST. THOMAS'S HOSPITAL (AUTHOR OF ESSAYS ON THE STOMACH AND INTESTINE, IN THE "CYCLOPÆDIA OF ANATOMY").

PART I.—INTRODUCTION; PATHOLOGY, SYMPTOMS, ETC.

In the following Essay, I propose briefly to place before the profession the opinions to which I have been gradually led by a large experience in the disease generally known under the name of Ulcer of the Stomach: a disease which especially claims the careful study of the practical physician, from its forming one of the most frequent, deadly, and curable of all the maladies of this important organ. In bringing forward these opinions, I need not hesitate explicitly to assert, what the above sentence implies,—namely, that I have had unusual opportunities of studying this disease, and have availed myself of these opportunities to the best of my power. But when I add that I cannot have seen less than one hundred and fifty cases of this malady in the course of the last five years, I am perfectly aware that I am venturing on a statement which requires full explanation: the more so because, if incorrect, such a prefatory remark would justly deprive all else that I might advance of any claim to consideration. The reader must therefore be told that this statement applies chiefly to the practice afforded me by my post as Physician to the Royal Free Hospital: an institution which is placed in one of the most crowded and destitute parts of London, and is thronged by a population in whom toil, intemperance, foul air, unwholesome residence, poverty,—and, in one word, misery, combine to furnish what are incontestably the most favourable conditions for the development of the disease. The numbers of patients amongst whom these 150 cases have been noticed have had scarcely any limit, save my own physical exhaustion, but may be estimated as amounting to not less than 15,000 instances of disease in general. And the kindness of various medical friends has frequently been excited in bringing under my notice additional cases of gastric disease which have materially extended and facilitated my researches.

But though the following remarks relate exclusively to the treatment of ulcer of the stomach, I do not wish it to be supposed that my attention has been directed solely to this topic, or that my results can be regarded as merely empirical, in the least invidious sense of this word. On the contrary, they not only claim to be based upon pathological considerations, but may be regarded as, in some sense, a sequel to two Essays on the Pathology and on the Symptoms of Gastric Ulcer, which have been published in the 33rd and 35th numbers of the *British and Foreign Medico-Chirurgical Review*. And they are illustrated by various cases, in my own practice, recorded amongst the Hospital Reports of the *Association Medical Journal* for the past and present year. The chief deductions of these Essays and Reports I may sum up by a few words, which may not only serve to introduce the following pages, but may substantiate and explain many of their details; and will at any rate represent their chief claims as a contribution to rational medicine.

The ulcer of the stomach is by no means rare. The open ulcer may be observed in about 2½ per cent. of the bodies of persons dying from all causes; and evidence of its present or previous existence (ulcer or scar) may be found in about 5 per cent.

As regards *sex*, it is twice as frequent in the female as in the male. As respects *age*, contrasting its frequency at various epochs of life with the numbers of persons living at those ages, we may conclude that the liability of living individuals of these several ages to become the subject of the ulcer gradually rises, from a zero at the age of ten, to a high rate, which it maintains through the age of middle life, at the end of which period it again ascends, to reach its maximum at the extreme age of ninety. It is therefore specially, though not exclusively, a disease of middle and advancing life.

In respect to its situation within the stomach, there is a marked preponderance of liability for the posterior surface, the lesser curvature, and the pyloric pouch, the per-centages in each of these situations (respectively 43, 28, 14½) together making up about 85 per cent., or 17-20ths of the whole. But no part of the organ is exempt from the lesion.

The ulceration has no precise limits of *size*, but ranges from that of a pea to an area of six or eight inches in diameter; in other words, to a superficial extent, which amounts to one-eighth, one-sixth, or even more, of the total mucous surface of the organ. Its *shape*, usually circular or oval, is sometimes elongated, or even zonular, so as to encircle the organ. Sometimes two ulcers are thus fused into one. As to *number*, a plurality of ulcers is not infrequent, occurring in 21 cases per cent. In 12½ per cent., there are two; in 3½ per cent., three; and four, five, or even six, have more rarely been found together.

The appearances of the tissues in and around the ulcer generally indicate a moderate amount of inflammatory reaction, the mucous membrane that constitutes the immediate margin of the ulcer being swollen above the level of the adjacent mucous surface. This thickening, which is always accompanied by induration, is produced by an exudation of lymph into the sub-mucous areolar tissue, as well as into the matrix that surrounds and ensheathes the stomach-tubes.

In less frequent instances, we see a minimum or maximum of the above reaction. In the former, the lesion is a mere removal of mucous membrane over a space that forms a shallow but level pit, with a sharp, smooth, vertical edge, as though it had been punched out. In the latter, the ulcer is surrounded, for the distance of an inch or more, by swelling and induration, which convert the mucous membrane into a thick, brawny mass, sometimes mistaken for cancer. The former state is usually connected with a small or recent ulcer, in a weakly or cachectic constitution. The latter is generally associated with a large ulcer, of long standing.

The base or floor of the ulcer presents analogous appearances: generally firm and hard, with infiltration; sometimes soft and gelatinous; rarely even flocculent or sloughy.

The ulcer, as it penetrates all the coats of the stomach, retains the characteristic shape of a cone, the base of which is at the free or mucous surface of the organ, while its apex points towards the peritoneum. In the latter situation, the ulcer is little more than a point, which corresponds to the centre of the cone, and in the place where perforation generally occurs. This event is usually the result of the rupture or detachment of a pale-yellow slough of peritoneum. In most instances, however, perforation is either prevented, or at any rate deferred and modified, by the occurrence of adhesion, which unites the organ to some adjacent surface, and thus obliterates the peritoneal cavity at and around the ulcer. This adhesion, the effect as well as the cause, of a protraction of the ulcerative process, occurs in about 40 per cent. of all the cases of ulcer. Its situation corresponds with that of the ulceration generally, save that it is rare on the mobile anterior surface of the stomach, or, if present here, is delicate, thready, and imperfect.

The duration of the ulcer varies from ten days to thirty-five years, the most acute or rapid cases generally ending life by perforating the anterior surface of the stomach.

The ulcer heals, by what is probably a spontaneous cure (aided at most by the instinct or experience of the patient in respect to diet), in about half its total number of cases. The cicatrization of a small ulcer sometimes leaves little trace; that of a large one often, by its contraction, seriously affects the shape, size, or calibre of the organ.

The ulcer perforates in about 13½ cases per cent., or one in 7½, a proportion which is about equal in the male and female sex.

This equal liability of the two sexes is the result of very different liabilities at different ages. In both sexes, indifferently, there is a decline in the relative frequency of this event up to the end of life. But on separating the two sexes, it appears that this decreasing frequency of perforation is chiefly due to a remarkable subsidence in the per-centage of the occurrence in the middle-aged female. The tabular details of this fact are as follows:—

—	Between the ages of			
	0 & 30	30 & 50	50 & 70	70 & 90
Per-centage of ulcers fatal by perforation in both sexes	40	16⅔	10	4⅔
In the male only	23	23	17	7
In the female only	59	10	3	2

The average age of perforation is 27½ in the female, 42⅐ in the male. Comparing the numbers of perforations with the numbers living at these ages, we may estimate the general liability to perforation as having the proportion of 11 in the male to 18 in the female. The excess in the female falls entirely on the age between 16 and 30, and two-thirds of it belongs to the age between 14 and 20. The liability to gastric ulcer in general increases with age, while that to perforation decreases in about an equal extent. This converse alteration is such, that from the age of 30 to 70 the risk of gastric ulcer doubles, while that of perforation sinks to one-half its former amount.

As regards the situation of the perforations, it would seem that the comparatively rare ulcer of the anterior surface of the stomach is the most frequent site of the accident; while the far more common ulcer of the posterior surface very rarely penetrates. In short, the former is fifty times as likely to perforate as the latter—a fact which evidently depends on the relative frequency of firm adhesion in these places. Perforation of adhesions, peritoneal abscesses, and fistulæ opening into the colon, duodenum, or external wall of the belly, are the rarer varieties of this process. The above enumeration represents the order of their relative frequency.

Hæmorrhage probably occurs in all cases. In respect to its sources, we may distinguish four forms, which generally occur at different dates of the malady, and certainly have a very different influence on its course.

Omitting all consideration of the way in which mere congestion may provoke or increase hæmorrhage from an ulcer, we may distinguish the bleeding as either mucous, sub-mucous, arterial, or visceral. In other words, it may come from—(1), the minute vessels of the mucous membrane; (2), the arterial and venous plexuses in the areolar tissue between the membrane and muscular coat; (3), the large arteries in the submucous tissue external to the muscular coat; or (4), the substance of the liver, spleen, or pancreas, penetrated by an adherent ulcer.

Of these four sources, the third is by far the most frequent source of large and dangerous hæmorrhage. Consistently with its origin, it generally occurs at that later period of the ulcer when the lesion has penetrated the mucous and muscular coats, and reached the interval between the latter and the peritoneal coat, in which those vessels run; or when, in the case of an ulcer of the posterior surface of the stomach, it has eaten through the adhesion that fixes the stomach to the pancreas, so as to erode the splenic artery on the upper border of this gland. In other cases the eroded artery is the only unhealed spot of the whole ulcer.

Such hæmorrhages, like perforations, generally occur after a full meal. But they may be excited, not only by mechanical distension, or by that afflux of blood that attends digestion, but even by mental emotion. They are absent from the whole course of the ulcer in about two-thirds of the cases; they are rarely fatal by a single attack.

Their total fatality would scarcely amount to more than from three to five per cent. of the ulcer generally. But the mortality from such hæmorrhages seems to be about four times greater in the male than in the female subject of the lesion. The average age of this mode of death (unlike that by perforation) is precisely the same (43) in both cases. The extremes are 78 and 13 years.

The situation of the ulcers fatal by hæmorrhage affords no special contrast with that of the ulcer generally. As regards its source, the bleeding is pretty equally divided between the splenic artery, which is eroded by adherent ulcers of the posterior surface (16 cases) and the pyloric or coronary (13 cases), which is involved by ulcers of the lesser curvature.

There does not seem to be any disease connected with the ulcer often enough to justify us in deducing its causative influence. Ague, mercury, intemperance, and the puerperal state, can only be detected in special cases. While the larger numerical statements respecting coincident phthisis do not seem to show a proportion of this disease much exceeding its average in the deaths from all causes indifferently.

Lastly, these researches well illustrate the deficiency of our knowledge. They would lead us to assume that,out of every 100 gastric ulcers,50 cicatrize; 13 perforate; 3 or 4 erode arteries, and thus give rise to fatal hæmorrhage. But they thus leave about 30 unaccounted for. My own observations would indicate, that out of this 30, at least 5 die of the sheer inanition and exhaustion the ulcer involves. But even this supposition leaves a large proportion unaccounted for—a proportion concerning which we can but conjecture that the lesion shortens life by increasing that gradual failure of the nutritive functions, which is one of the most serious dangers in all maladies, as well as one of the most essential elements of death by old age.

The SYMPTOMS generally occur in the following succession:—The malady is announced by disturbances of gastric digestion; at first, uneasiness and pain in the epigastrium, then nausea and vomiting. If not cut short by perforation, these dyspeptic symptoms are next complicated by hæmorrhage from the stomach; sometimes a gush,oftener a slow drain, of blood. The anæmia produced by this hæmorrhage is generally associated with a cachexia which seems to be essentially independent of it, being chiefly the result of the inanition implied by frequent vomiting of the food, or by large destruction of the gastric mucous membrane and consequent impairment of its important function. In young females, this anæmia and cachexia are often associated with amenorrhœa also.

The gradual acquisition of all these symptoms conducts the disease, in a variable time, to a climax; from whence we may next trace it towards its termination. Retaining the above liabilities to perforation, to hæmorrhage, and to exhaustion, which the organic results of ulceration imply, the lesion often ends by one of these modes of dying, either singly or in combination with the others. In other cases, the symptoms subside spontaneously, in something like the inverse order of their occurrence; or a similar amendment is effected under such medical treatment as quite entitles it to be called a cure. In other instances, the symptoms continue with a moderate intensity, during a variable period of life, during which they often fluctuate so much that it is difficult to fix the exact boundary which separates remissions from intermissions, or these from complete recoveries followed by relapse. In any case, the protraction of these symptoms during many years at last mixes up the impairment of nutrition they produce with that naturally resulting from old age, and thus constitutes the malady an indirect or conditionating cause of death—a cause, the importance of which it is difficult to exaggerate, though scarcely possible exactly to estimate.

The *pain* is rarely, if ever, absent from the whole course of the case. In its character it generally increases from a sense of weight to a dull continuous pain, which ultimately becomes gnawing and burning.

Its date of access is generally about five minutes after the ingestion of food. Its duration corresponds with the act of gastric digestion. It is therefore at once arrested by vomiting, which empties the stomach. But it may immediately follow deglutition, as in ulcers of the cardia; it may be deferred to an hour or more after eating, as in common dyspepsia; or it may continue in the intervals of the meals. Lastly, in rare cases, it may be worst with an empty stomach, and be alleviated by taking food.

In situation, the pain is usually epigastric, and interscapular or rachidian. Sometimes, to these two seats of pain a third is added, by the presence of pain of an independent character, in the hypochondriac or umbilical regions.

The epigastric pain, which appears first, is also most intense, and generally corresponds to the median line of the belly, below the point of the ensiform cartilage. It is usually limited to a circular area of which this line would form the diameter, in its uppermost two inches. Its vertical deviation seems to be sometimes, and its lateral deviation generally, connected with a corresponding situation of the ulcer, a lesion of the greater curvature, the cardiac sac, or the pyloric sac, of the stomach, being associated with an habitual site of the pain in the umbilical left hypochondriac, and left hypochondriac regions, respectively.

The dorsal pain is still more limited in its situation, coming on later, but scarcely less constant, than the epigastric pain. It rarely lies above the ninth, or below the twelfth, dorsal vertebræ; and its horizontal variation is scarcely more than one inch to either side of the spine. Hence its deviation is more characteristic of the site of the ulcer than that of the epigastric pain.

All these pains are greatly increased by very moderate pressure in the epigastrium. The exceptions to this rule are very rare, and probably depend on peculiar mechanical circumstances connected with the lesion, such as shield it from the pressure. They are all alleviated by rest and the recumbent posture. The *decubitus*, or the posture in which the patient feels least pain, affords a very valuable guide to the situation of the ulcer. When it is distinct, it will rarely mislead us.

Lastly: active movement, mental excitement, mental depression, or general fatigue, as well as the ingestion of hard, indigestible, hot, sweet, or fermenting substances, remarkably increase the pain, with rare exceptions.

Vomiting, which constitutes one of the most dangerous symptoms, generally comes on many weeks later than the pain; sometimes it remains absent throughout. It is usually the crisis of the paroxysm of pain, coming on when the latter is most intense, and completely relieving it. It is in most instances of an easy character, from the distension of the stomach then present; and rarely ends without completely emptying the organ. The substances it expels will of course vary. Food, saliva (as in what is called "pyrosis"), blood, or bile, may all be present in varying proportions. Its greatest intensity seems to be chiefly connected with a large size and a long duration of the ulcer.

Hæmorrhage, an almost unavoidable incident of the process of ulceration, is by no means equally frequent as a symptom. For, since a small quantity of blood does not exert any specific action as an emetic or purgative, it will depend entirely upon a casual coincidence of the two symptoms, hæmorrhage and vomiting, whether the latter reveals the former, just as it will depend upon the amount of attention given to the stools of a patient whether we detect any blood which may have left the intestinal canal with the evacuations. The exposure of such blood to the action of the fluids of the stomach and intestine still further complicates the obvious effects of its admixture with the secretions or ingesta that may chance to be present. It acquires a dark (even black) colour and a tarry, pultaceous consistence, that testify to the alteration of its solid and the absorption of its liquid parts. Rarely, however, do these effects of digestion embarrass our decision as to the nature of the coloured substances found in the stool or vomit. And with obvious precautions against the admixture of animal food, the microscope will of course detect any quantity of blood, however small.

The larger or arterial hemorrhages generally occur after meals, during that distension of the stomach which a large quantity of food necessarily produces. Fulness and weight, soon followed (or even preceded) by faintness, rapidly merge into nausea, that ends by vomiting. The blood may be visibly arterial, if vomited at once; or partially darkened and clotted, if retained longer before expulsion. Those portions of it which pass into the intestine may also undergo more or less of the changes of colour and consistence already alluded to. Lastly, the hæmorrhage may kill by a single gush, giving rise to no vomiting, and leaving the whole of the stomach and duodenum distended by a single enormous clot.

The state of the bowels during the malady seems devoid of all connexion with any special features of the lesion. Constipation is more frequent than diarrhœa, and is in most cases the natural result of the constant vomiting present, and the scanty transit of food into the intestines which that vomiting implies. Diarrhœa is scarcely more frequent than might be expected, supposing it quite independent of the ulcer. Copious hæmorrhage, however, may produce it.

Amenorrhœa is certainly a less frequent symptom than is generally supposed. In the chronic ulcer of middle-aged women the catamenia are frequently unaffected; often regular, sometimes profuse. Copious hæmorrhage, however, will generally produce it, the connexion being a very obvious one. The hæmorrhage causes the amenorrhœa, just as any other serious bleeding would. In other cases, the amenorrhœa precedes the hæmorrhage. But as the absence of the menses seems not to confer any additional risk of such bleeding beyond that present in gastric ulcer generally, there is no reason for regarding it as an independent cause. In like manner, there is rarely any definite correspondence between the bleeding and the menstrual epoch. And a true vicarious menstruation by an open gastric ulcer is almost unknown.

It is chiefly in the young female that this symptom is found, and in connexion with that tendency to perforation which we have already pointed out as characteristic of the ulcer of this period of female life. Even here, though, the amenorrhœa is no invariable rule. Some menstruate copiously, some profusely, even where their chlorotic or cachectic appearance would lead us to suspect the contrary. In many cases the menses have not *dis*appeared, but merely failed to appear at the usual age. In others, puberty is absent. In one case dissection showed the supposed female to be neuter monster. And in general the age of these cases (the average epoch of puberty, and of the year or two immediately following) does not exhibit those fluctuations that would exactly correspond to the epoch of commencing menstruation. From these and other facts we may conclude that the ulcer causes the amenorrhœa, which it generally precedes, just as other grave diseases often suppress the menses. And we may conjecture that its producing amenorrhœa chiefly at this age (the symptom often disappearing after awhile, in spite of the continuance of the ulcer) is owing to the comparatively imperfect and immature state of the menstrual function during the period in which Nature first establishes it.

The amenorrhœa of the young female is associated with a "chlorotic" state, which is the representative of that *cachexia* which the ulcer rarely fails ultimately to produce in both sexes. This cachexia, and the peculiar physiognomy it often imparts, are an important indication of the disease.

Many of the symptoms of *perforation* from gastric ulcer are common to this accident, however produced. After suffering from the preceding symptoms, the patient is attacked (generally after a meal, often during some active or passive movement) with violent pain in the epigastrium, which ushers in the ordinary phenomena of acute peritonitis, ending life in from twenty-four to thirty-six hours. Sometimes the contents of the stomach leak slowly through a film of the ulcerous tissue for some hours or days before the perforation takes place. Sometimes a previous adhesion limits the accident to a part of the cavity of the abdomen, which may ultimately form the sac of a peritoneal abscess, or even the site of a fistula.

The cicatrization and contraction of the ulcer sometimes give rise to dilatation or *ampliation* of the stomach. This state is, however, producible by other gastric maladies, and would only be distinguishable as due to gastric ulcer by the occurrence of the preceding symptoms.

Diagnosis generally.—It is no exaggeration to say that, as every one of the preceding symptoms may vary, their combination gives rise to so many modifications, that each individual case of ulcer of the stomach is unlike every other. Hence we may especially limit ourselves to considering the two following questions.

1. *What is the minimum of evidence that will justify our affirming the existence of a gastric ulcer during life?*—To this question I should answer, that nothing short of *all* the chief symptoms entitles us to give a decided opinion. The date, duration, and character of the pain are not enough, the addition of vomiting even is insufficient, without the occurrence of hæmorrhage to indicate an absolute breach of continuity in the affected organ.

But though these symptoms make up the minimum safe basis of diagnosis, to require them, before permitting ourselves to suspect the lesion, would be a grievous error in practice. To say nothing of those doubtful cases on record, in which the symptoms have not been investigated during life with sufficient exactitude to lay much stress on their alleged obscurities or deficiencies, a careful study of the malady has convinced me that there is no exact limit to the degree in which it may be rendered latent by the absence or the ill-marked characters of some of these symptoms. Indeed, their slow succession in many cases might alone prepare us for the fact, that vomiting may be limited to nausea or regurgitation, and hæmorrhage be so scanty and unfrequent as to defy the most frequent and sedulous examination of the matters expelled from the stomach by stool or vomit.

It is in such cases that we must make the pathology of the lesion in general supply any casual deficiencies in the physiognomy (if we may so speak) of the case in particular; and must remember that suspicions which fall far short of a definite diagnosis may yet be sufficiently important to dictate the whole plan of treatment. Suppose, for example, that we are consulted by a patient for protracted and severe dyspepsia, which has seriously affected the general health; that we find this dyspepsia especially called forth by proteinous substances, and by hot fluids; that it is associated with pain and tenderness in the epigastrium, and pain in the lower dorsal region, much increased immediately after the ingestion of food, and affected as above described by movement, rest, and posture. In such a case, by treating it as ulcer of the stomach, we may often cure what we cannot justifiably diagnose; and may witness a triumph of the art over the science of medicine which the most laborious pathologist would scarcely be sorry to see more frequent than modern research generally allows it to be.

2. The second question. *With what diseases is gastric ulcer most likely to be confounded?*—could only be fully answered by elaborate details of cases, such as I have no time here to adduce. Dyspepsia, chronic inflammation, "hypertrophy" and cancer of the stomach, disease of the duodenum, gall-stones, aneurisms, and a variety of other diseases too numerous to mention, all present degrees of resemblance, which the above variations in the symptoms of gastric ulcer render much more suggestive of error than is generally the case in diseases of other organs.

Of all these diseases, however, there is none in which the resemblance is so close, and its detection so important, as in the case of cancer of the stomach; and hence we may enumerate (though we cannot discuss) the chief points on which their differential diagnosis would generally depend. The cancerous disease belongs chiefly to middle and advancing life, rarely dates from more than twelve or eighteen months prior to the death of the patient, is associated with the cancerous cachexia, often with cancerous disease of other organs. In many cases it forms a hard but moveable tumour in the epigastrium; its hæmorrhage is more scanty, and, on the whole, later in the history of the malady; its vomiting expels what the microscope will often show to be cancer-cells. But unless unusually distinct, scarcely one of these characters possesses much independent value. The gastric ulcer is frequent in middle and advancing life; it may destroy life in a few days or weeks; it is often associated with a cachexia that is sometimes almost impossible to distinguish from that of cancer, and is not unfrequently accompanied by disease of other organs that could tolerably simulate secondary cancer. The ulcer, if adherent, may form a tumour. Its pain may affect a lancinating character, or be deferred until some time after meals. Its hæmorrhage may have the moderate amount, and the "coffee-grounds" appearance, ordinarily seen in that of cancer. And though it is of course unusual to find these separate contingencies combined together to obscure the diagnosis of any single case, still such instances may and do occur. Once or twice I have myself met with cases in which no definite diagnosis between the two maladies appeared to be justifiable, and in which the moderate ulceration detected many months before death (though complicated with other diseases) has offered no symptoms, during the whole time, that would warrant its being definitely regarded as malignant or the reverse.

Such varieties in the morbid anatomy, the symptoms, the course, and the termination, of this frequent and serious malady, may be best summed-up by my briefly repeating the opinions which my researches have long led me to form respecting its *nature* and *causation.*

It is only in a very restricted sense that we can adopt the ordinary nomenclature by which this disease is known in medical treatises. It is generally called *the ulcer*—often the *simple*, or *chronic*, or *perforating ulcer of the stomach.*

Now, as regards the word *ulcer*, an important exception may be taken to its use. The comparison of any large number of specimens conclusively shows, that there is no specific or pathological distinction between *ulcer* and *ulceration* of the stomach; and that all the distinctive characters which the most minute description could assign to either, merge into those of the other by infinite gradations. Whilst each of the other terms emphasized above, is a fair instance of the "*lucus à non lucendo.*" The lesion is called *the* ulcer because it is not essentially single in its nature and origin, and is very frequently present in the plural number. It is called the *simple* ulcer because its characters are generally a compound of two processes—of absorption and reaction; the latter of which certain instances show to be quite independent of the former. It is called the *chronic* ulcer because its rapid progress sometimes penetrates the stomach, and destroys life in a few days. Finally, it is called the *perforating* ulcer, because, in about seven of every eight cases, it does *not* perforate.

In point of fact, we have every reason for denying the existence of any specific disease that can fairly claim the title of *the ulcer of the stomach.* All the varieties that affect the form, site, numbers, course, and termination of this lesion, seem to be paralleled by similar differences in the causation of the malady, both as regards the organism in general, and the local mischief. We have, indeed, no more right to talk of "*the* ulcer of the stomach" than of "*the* ulcer of the leg"—no more reason to assume that the gastric lesion invariably begins by any special occurrence (such as hæmorrhage, softening, or submucous deposit) than we have to restrict the beginning of what is evidently a similar process of destructive absorption in the limb to an ecchymosis, a pimple, an abscess, a burn, or an obstructed vein. And, just as experience proves, that ordinary cutaneous ulcers may begin by either of these lesions, retaining a general identity of the subsequent ulcerative process, so all the facts that can be brought together respecting the ulcer of the stomach, point to a similar conclusion. It is only thus we can explain its ascertained relation to many diseases, and to various physiological conditions. Ague, fever, or the vascular disturbances of female puberty might, perhaps, cause ecchymosis; but to convert this effusion into a spreading ulcer, would require a process of absorption which no mere extravasation would explain. The influence of old age, privation, and fatigue, again, throw little light on the local change that ushers in the ulceration, but exactly concur with the known efficacy of these circumstances in the promotion of ulceration elsewhere. In like manner, to grant that the circumstances of digestion often retard the healing of a gastric ulcer, is to concede nothing more than may be observed in an ulcer of the leg, where such physical circumstances as posture, pressure, and the like, equally influence the result. Nay, more, that the analogy extends to the minutest details, is well shown by comparing the gastric and the cutaneous ulcer of the young female. During the epoch which immediately follows the access of puberty in the female, both these varieties of ulceration—the ulcer of the stomach and the ulcer of the leg—are marked by an absence of re-action in the lesion, and are generally followed by cachexia, by more or less amenorrhœa, and, lastly, by an aggravation of the local symptoms at the menstrual periods.

PART II.—TREATMENT.

The means by which we endeavour to effect the cure of this disease may be all grouped together as subservient to one or other of the following purposes. Of these purposes it is not too much too say that, just as they constitute the special indications of our treatment, so the efficacy of any particular remedies we may select will depend chiefly on the accuracy with which the latter severally fulfil them. To remove all local obstacles to the cicatrization of the ulcer; to support the constitution in effecting this process; to remedy the results the lesion may have already brought about; and to limit or arrest some of the more prominent symptoms by which these results are usually betrayed: this is what we endeavour to do, and can often really accomplish, towards the cure of an ulcer of the stomach.

In briefly glancing at these remedies, we will accord to medicines, as distinguished from diet, a rather unmerited precedence, and consider them first. Such an order is perhaps, the more convenient, that the mitigation of symptoms which they can certainly effect is generally the first step towards the slow and progressive cure of the malady.

The question of bleeding is one that might almost be left unnoticed, save by a simple protest against either the general or local forms of depletion. A malady which not merely originates, but consists in, a process of destructive absorption; which, in most instances, implies hæmorrhage,—in many, a dangerous or fatal loss of blood; which is generally attended by symptoms of extenuation and cachexia; and which specially affects the poor, the intemperate, the ill-fed, the wretched, and the aged,—is not one in which any presumable local benefit can counterpoise the obvious mischief producible by even moderate loss of blood. That a few leeches to the epigastrium will often afford relief to the gnawing pain which torments the sufferer from gastric ulcer, I see no reason to doubt. That vascularity is (to speak somewhat vaguely) a condition of pain, and that that re-distribution of the blood which even a small general bleeding can bring about may therefore for the time diminish suffering, seems also very probable. But that depletion will give more than temporary relief, and that its constitutional effects can have any but a most mischievous local re-action, may be utterly denied. Assuming such a denial to be true, local depletion in this malady may be compared with the ignoble (because short-sighted) policy of the drunkard who stills his stomach by a dram, which helps to cause the very craving it for the moment appeases.

But such a view of the effects of bleeding by no means applies to other forms of that revulsion which some French author has characteristically termed the "moiety of medicine."[*] Blisters, turpentine stupes, mustard poultices, dry cupping, and hot fomentations are exceedingly useful adjuncts of this kind to internal remedies. The symptom which seems to me chiefly to demand the application of such means is chiefly that of pain, especially of that continuous gnawing pain, which, in severe cases, sometimes occupies even the intervals of taking food. The epigastrium is generally the most convenient site of applying them. But when the chief pain is referred to the dorsal spine, it will often be found more effective to choose this region for their application. As regards the particular agent to select, the above enumeration tolerably represents the order of their severity. Blisters are generally most useful in young and well-nourished subjects, and in comparatively recent cases, when they are not, by any means, contra-indicated by pallor of countenance; the less so, indeed, that this symptom appears sometimes to be partially due to gastric intestinal congestion. Tartar emetic is rarely or never advisable: it is too painful and troublesome; lowers the patient too much; even if it does not sometimes give rise to other and more specifically antimonial effects on the system. Turpentine and mustard, which avoid even that limited expenditure of the *liquor sanguinis* that the serous effusion of a blister involves, are preferable in old and chronic cases where the strength is reduced, and have the further advantage of being repeatable at shorter intervals of time. Lastly, in cases where the powers are exhausted by constant vomiting, and where (what is rarely the case) the pain[†] still forms a very prominent symptom, dry cupping is the best means of mitigating it. Indeed, it is efficacious in those depressed and languid states of the circulation, when even turpentine and mustard have lost much of their effect.

One unpleasant consequence of such applications I may mention, though it would rarely afford a definite and practical contra-indication of their use. In two instances that have fallen under my notice, in which the necropsy revealed old adhesions between the stomach and the wall of the belly, blisters gave rise to a marked increase of the pain. A somewhat similar uncertainty attends the application of hot fomentations to the epigastrium, since in many instances these seem to increase the pain by raising the temperature of the subjacent parts, including the seat of the lesion.

A still more valuable remedy, of precisely the opposite kind, may be often found in the local application of cold by means of ice. In many cases of obstinate vomiting or severe pain, great relief may be obtained by frequently swallowing small lumps of pure ice. And in cases of hæmorrhage its use is almost indispensable. Here, too, it is sometimes advisable to apply it externally, by means of a bladder partially filled with powdered ice, and kept in contact with the epigastrium for a few minutes at a time.[*]

The drugs recommended for the relief of this malady are so numerous and diverse, that it is scarcely possible to avoid some classification in treating of them. And considering how moderate is our acquaintance with the action of many of them on the healthy or diseased organ, the only justifiable approach to a classification is one that considers each with relation to those special symptoms which experience seems to show that it can relieve. Here, as in many other diseases, we must both choose and classify our remedies on an empirical basis, and use their known physiological and pathological effects chiefly as means of suggesting their trial, explaining their action, testing their efficacy for the disease in general, or forbidding their application in the particular case. To accord to our limited knowledge of this kind a higher function than such a suggestive and deliberative one, would often lead us to overlook, or even refuse, excellent remedies. To rate it at a lower value, would soon lead us to confound recoveries and cures, and thus repeat the most dangerous (because the most seductive) fallacy of homœopathy.

The relief of severe and continuous *pain* is best effected by sedatives, and especially by opiates. The form in which these may be best administered is determined chiefly by the state of other symptoms. Where severe pain is accompanied by very frequent vomiting, a very small pill of solid opium, or of the watery extract of this drug, is often better retained than any other form of opiate. Where diarrhœa is present the compound kino powder is an excellent remedy; with which we may combine what is calculated to allay both the flux and the pain—the trisnitrate of bismuth.

There are, probably, few drugs which have enjoyed a more durable or extensive repute than this preparation of bismuth in many gastric affections attended with much pain. In the "morbid sensibility" of the older writers (a form of dyspepsia, which there can be no doubt will always include a certain proportion of gastric ulcers, and which probably included a still larger number when this disease was comparatively unknown to the physician), the bismuth is constantly praised as an efficacious sedative. And my own experience quite corresponds to that of other observers in this respect. In doses of from ten to twenty grains, at intervals of six or eight hours, either alone or in combination with five to ten grains of the compound kino powder, it has often had a remarkable effect in relieving the pain, vomiting, and diarrhœa so frequently present in this malady.

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[*] "La revulsion, c'est la moitié de la médicine."

[†] The pain generally becomes greatly diminished on the access of exhaustion: a fact which requires no explanation.

[*] The use of external cold being strictly empirical, both in these cases in general and in any given instance in particular, it is hardly worth while to inquire into any imaginary danger of congestion of the ulcerated organ by revulsion of blood from the cooled abdominal surface. But how efficiently the stomach itself may be cooled by ice applied to the epigastrium is illustrated by a converse fact,—namely, that an enema of cold water at 45° Fahr. soon lowers the temperature of the anterior wall of the belly by three or four degrees. (Compare E. H. Weber in Mueller's Archiv., 1849, Heft 4 p 278, *et seq.*)

The mention of this preparation of kino seems to demand some allusion to the other vegetable astringents. Diarrhœa is so seldom a dangerous symptom of gastric ulcer, that they will rarely be indicated in this way. And their value as tonics is greatly diminished by their tendency to cause constipation, as well as by the gastric irritation that large doses in the liquid form excite in the ulcerated stomach. They have, however, been commended in what is called *pyrosis*, with the plausible notion of checking that excessive secretion from the stomach, to which this watery vomiting is supposed to be due.

The frequency with which pyrosis occurs in ulcer of the stomach, renders it advisable to correct the errors implied in the above statement—errors which evince, not only ignorance of physiology, but carelessness in making assertions that ought to form the result of pathological inquiry. Without going quite so far as to affirm that the secretion of the stomach is, under all circumstances, acid, we may safely assert that there are no sufficient reasons for believing that it is ever otherwise. And except in those rare instances in which the fluid vomit of pyrosis consists chiefly of ingesta, a careful chemical and microscopical examination will generally show that it is composed almost exclusively of saliva, which, often poured forth in increased quantity as the result of gastric irritation, is conveyed into the stomach, either by unconsciously trickling down the œsophagus, or by being propelled through this tube in the usual process of deglutition.

It is not easy to give any satisfactory explanation of the operation of bismuth in these cases. To say that is a sedative, is merely to express, by a vague generalization, its efficacy in relieving pain; and it is neither more nor less correct than it would be to call it an astringent, because, in other diseases, it often restrains and checks diarrhœa. How far both these effects are akin to those of the salts of lead, is difficult to determine, though its affinity to the latter in some other respects may partially suggest such a comparison.

Thus there can be little doubt that it is often decomposed by the sulphuretted hydrogen of the alimentary canal, and converted into a black sulphuret of the metal.* And, in one or two instances, I have assured myself that its administration has given rise to the formation of a bluish-red line along the dental edge of the gums analogous to (but less intense than) the line of sulphuret of lead in the same situation, which constitutes the well known test of the presence of lead in the system.

It is not often that *flatulence* constitutes a very distressing or prominent symptom of gastric ulcer. Depending, as it does, almost solely† on a decomposition of the food introduced into the alimentary canal, unchecked by the agency of the gastric and intestinal secretions by which it is normally limited and restrained, its presence in gastric ulcer implies a derangement of these secretions, which is not by any means necessarily or often present. While a still more efficient reason for its absence is found in the fact, that any food in excess of what the quantity and quality of the secretions can digest, is pretty sure to give rise to an act of vomiting, by which it is soon expelled from the stomach.

We do, however, sometimes find cases of gastric ulcer, in which the long interval that precedes the worst attacks of pain after food, and the extreme distension complained of by the patient, refer the symptoms, at least in part to this passive origin. It is chiefly in these cases that the remedies usually administered for the common or flatulent form of dyspepsia, appear to be most serviceable. Amongst these, we may enumerate the alkaline carbonates, (preferably the bicarbonate of potash,) the action of which seems to depend in great degree on their neutralizing the lactic and other acids developed by gastric decomposition; and the hyposulphate of soda, which appears to have a specific influence in checking that development of confervoid growths that constitutes (or, at any rate, invariably accompanies) the more complete forms of fermentation in the contents of the stomach. With the former I have found it advantageous to combine small doses of the iodide of potassium. And of all the bitter infusions, I have found none so beneficial, in this flatulent nausea, as the calumba. The subjoined formula is one that I have frequently prescribed, with the best effect, in the flatulent dyspepsia of gastric ulcer.

℞. Potassii iodidi, gr. i.
Potassæ bicarbonatis, grs. xv.
Tincturæ aurantii, ʒss.
Infusi calumbæ, ʒviiss.
M. Horâ secundâ post cibum sumitur.

Vomiting, by far the most dangerous and important of all the symptoms of the lesion, is also that which is, on the whole, the least amenable to the influence of drugs.

That variety of vomiting which accompanies the later pain and flatulence just alluded to, may often be relieved by the remedies mentioned, especially by the calumba mixture. Where it resists them, the hydrocyanic acid, the effervescing mixture of citrate of potash, or both these in combination will sometimes allay it. But I have not found much benefit from creosote, and think that the salts of ammonia (in which I include the effervescing mixture of the citrate or tartrate) generally do more harm than good. Indeed, there are many cases in which we are ultimately obliged to extend the latter statement to all the drugs generally recommended for the purpose of checking vomiting. I have long come to the conclusion that where one or two of the above remedies appear to be inefficacious, it is better not to risk irritating or exhausting the stomach by what are really new experiments. In these terrible cases, in which the ulcerated organ is often so irritable that vomiting is produced by the smallest quantity of the blandest food, what, indeed, can we expect from the contact of unnatural and nauseous ingesta like such drugs? Did experience show that they really checked vomiting, it would be absurd to ask how they could intelligibly produce this effect. But as I can confidently assert that they often fail to do any good, however carefully administered, and that the treatment which abdicates their use is far more successful, it is obviously important to consider how far that treatment is more rational than the plan it claims to surpass.

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* A decomposition which it probably shares with the salts of lead, iron, mercury, arsenic, and many other metals.

† Here, as elsewhere, the author has thought it better to refrain from introducing into a practical essay any debated points in the physiology of digestion. The reader who is interested in such matters will find the grounds of the author's opinions in his essay, "Stomach and Intestine," in the "Cyclopædia of Anatomy."

That variety of vomiting which occurs in gastric ulcer could be readily shown, from any analysis of a large number of cases, to possess all the ordinary relations of this act to the system at large—to be composed, so to speak, of all the ordinary elements of the process; to be by turns either due to, or chiefly connected with, a central and peripheric (or a cerebral and a gastric) irritation, to be favoured and opposed by the ordinary *juvantia* and *lædentia* of activity or distension, inactivity and emptiness of the stomach respectively.

Now, it is according to these circumstances that we may best classify the vomiting present in different cases of gastric ulcer. And they will also in great extent dictate the means for its treatment.

For instance, the kind of vomiting most frequently seen in these cases, and that which is the first to appear in the history of the malady, occurs as the climax of that paroxysm of pain which begins shortly after a meal, and is referrible in great part to the distension of the stomach; increased it may be by flatulence, and perhaps aided y the stimulating effect of food and gastric juice on the raw surface of the ulcer. As such, it ends as soon as the organ has voided its contents. And it is best treated by limiting the amount of ingesta, relieving flatulence, and neutralizing undue acidity.

In the gastric ulcer of drunkards I have several times noticed a morning paroxysm of vomiting, sometimes (but not always) accompanied by pain. This vomiting, which occurs on an empty stomach, seems to be chiefly cerebral: in other words, the result of that general depression by which the effect of the stimulus subsides. Correspondingly with this explanation, it is not very unusual to find it occurring independently of gastric ulcer, while it is generally and habitually solaced or appeased by a dram. And of the drugs that one may more justifiably prescribe with the same object, few have greater efficacy than opium, which may be given preferably in the solid form, as a small pill.

The vomiting sometimes assumes a greater frequency, so as to be excited by any small quantity of food, or even to be repeated, when the stomach is void of all alimentary contents. In many of these cases it is not easy to say whether the act is chiefly cerebral or gastric:—whether it is mainly kept up by habit, or by the debility of the patient, acting on a nervous apparatus whose normal functions have been shaken or reversed; or whether it is still, in some sense, the result of a stimulation or irritation applied to the ulcerated surface itself. In most instances, however, the associated pain points pretty conclusively to the latter view. Here it is extremely important rightly to appreciate the principles of our treatment. And, in accordance with the above suggestions, instead of ranging over the drugs to which experience or tradition attribute the power of allaying vomiting—which we may often do with little more success than if we were attempting to arrest sea-sickness by the same means—it should be our object to afford the stomach as complete and prolonged a repose as the necessities of the organism will allow. As regards drugs, the interruption to such repose which their administration implies, will often do far more harm than their specific medicinal virtues can possibly do good. And though ice and iced water are less objectionable, yet there are some cases in which the same rule will apply to these simple and unirritating sedatives, even in the smallest quantities.

As respects food, our task is often much more difficult. There are instances in which the patient is already so much exhausted by the inanition which protracted vomiting implies, that any severe plan of diet—such as involves simple food in very small quantities, or protracted abstinence—becomes quite inadmissible. Indeed, the patient is not unfrequently in a state which would itself demand the sedulous administration of food and stimulants, were not these contra-indicated by the state of that organ into which they must first pass.

In extreme cases of this kind, it is of great advantage to obviate this contra-indication by resorting to enemata of strong beef-tea or even brandy-and-water. Small opium suppositories or glysters are also of benefit on the same principle, especially where the vomiting is attended with much pain. And in all cases in which there are any appearances of exhaustion, we cannot be too watchful over the effect of any system of diet we may have thought it advisable to adopt. It is, indeed, extremely difficult to gauge to a nicety how small a quantity of food will prevent inanition, and at how long intervals we may administer it. But it is well to bear in mind, not only that vomiting implies the total loss to the system of the food it rejects, as well as of fluids which are almost as valuable, but that the act itself rapidly exhausts the nervous and muscular tissues, by which it is chiefly effected. On this ground the retention of a very small quantity of food is far preferable to the vomiting of a large one, even though the latter act leaves a greater surplus behind it in the stomach. And it is often important to begin by a decided plan of diet, even although the patient's weakness would necessarily forbid it being persisted in. For the habit of vomiting once so far broken through that the stomach can tolerate a minute quantity of any food, it is frequently easy to advance to larger quantities, and better qualities, of nourishment, without provoking any return of the sickness. I shall allude further to these points in connexion with the subject of diet.

Hæmorrhage is another symptom which requires to be treated with reference to the pathology of the lesion that produces it. The scanty flux that occurs in the earlier stages of gastric ulcer, such as often amounts to little more than a streak or two of blood in the vomit, or a dark coloration of the stools, scarcely demands any special treatment, beyond that which it is necessary to adopt in all cases of gastric ulcer. But where it occurs in the chronic ulcer, or amounts to a considerable quantity of blood, we are justified in directing a more special (if not exclusive) attention to it. And as the stomach is amenable to the local action of any astringents we may introduce into it, as well as to that general action which their absorption into the system may induce, our means of arresting hæmorrhage are, other things[*] being equal, much more efficacious than in the case of bleeding into the lungs.

The course I generally adopt is dictated, partly by the above conditions, partly by the existing state of the patient. In respect to the latter, I may again incur the suspicion of leaning too much towards an expectant mode of treatment, if I state, that where there is reason to suppose that the bleeding comes from a large vessel, and is for the time arrested, it is better to limit our treatment to the negative plan of conceding the stomach the most perfect rest. A little ice from time to time, if the patient be very thirsty, or complain of much pain; a rigid observance of the supine posture; and the minimum of food (preferably of boiled milk) that will support life—such are the simplest and best precautions we can take to avoid the disturbance of that clot which alone intervenes between the life and death of the patient during the first few days that immediately follow a copious hæmorrhage from a gastric ulcer. A more frequent and moderate oozing justifies (and demands) a more styptic plan of treatment, especially where there is no great tendency to vomiting present. Turpentine, and the sesquichloride of iron, which have, I believe, been recommended with this view, are both open to the grave objection of often exciting nausea and vomiting, even in moderate doses and dilution. The formula I most prefer consists of about ten grains of gallic acid, dissolved in an ounce of distilled water by the aid of about ten minims of the dilute sulphuric acid. But in some cases of this kind, in which the pain has led me to prescribe bismuth and compound kino powder, the bleeding has seemed to be arrested by these astringent drugs.

Lastly, whatever the nature or amount of the hæmorrhage, the internal and external application of cold by means of ice, and the rigid observance of the dietary already referred to, is an indispensable part of the treatment.

The *cachexia* which generally accompanies the ulcer, as well as the hæmorrhage which, in varying amount, usually occurs in some part of its course, unite to constitute one of the most important indications of treatment. This cachexia, which is the worst effect of all the other symptoms, and which constitutes (I am convinced) one of the most frequent causes of death in the general history of the malady, not only modifies and limits our application of the remedies hitherto specified, but practically measures the general success of our treatment.

The difficulty it sometimes opposes to that local treatment by which the ulcer is best allowed to heal, has already been alluded to. The system of stimulation it sometimes dictates, we shall again revert to in speaking of the dietetic treatment of the malady. At present we may chiefly view it as indicating the exhibition of *tonics* in all cases in which the state of the ulcer does not absolutely forbid the introduction of these remedies into the stomach.

Amongst the various remedies included in this class, the preparations of iron claim the foremost rank. The pathology of that chlorotic condition which is simulated by the gastric ulcer of the young female, as well as the results of the hæmorrhage often implied by the lesion, alike point to these preparations as the best means of furthering that growth of the red corpuscles of the blood, which may obviate that state, or repair these losses. And experience quite confirms such anticipations of the efficacy of iron.

The chief precautions necessary to observe in its use, seem to be the following:—Frequent vomiting, or excessive and continuous pain, contra-indicate it. And, even when these symptoms have partially yielded to other remedies, it is better to begin with the very mildest preparation of the metal, such as the ammonio-citrate, or ammonio-tartrate. They should always be given either with, or immediately after, food:—a general rule in using them, which the presence of an open ulcer makes doubly important. And the various soluble salts of the metal should always be given in combinations that allow them to retain this form. In other words, the use of the insoluble oxide, either directly or indirectly (as in the compound iron mixture a few hours after being made up), should generally be avoided.

The bitter vegetable tonics are, on the whole, less important; though in combination with other remedies, they are often useful. Thus the infusion of calumba is not contra-indicated by any moderate amount of vomiting; and that of quassia may often be given with iron. Lastly, of all the ordinary combinations of mineral and vegetable tonics, none is so elegant and so generally useful, in the later stages of convalescence from gastric ulcer, as a mixture of sulphate of quina and iron, kept in solution by a few drops of sulphuric or hydrochloric acid. Indeed, whenever the stomach will bear quina (as it certainly will in the majority of cases after suitable preparation), a course of this energetic tonic, during at least a few weeks, is very advisable. And in those instances in which the ulcer itself seems to be a sequela of ague, such a rule becomes, for obvious reasons, still more valid.

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[*] Amongst such qualifying circumstances as those hinted at by this phrase we may specially notice the intimate relation of pulmonary hæmorrhage to the mechanism of respiration, and the fact (established in an earlier part of this Essay) that a large majority of the gastric ulcers fatal by hæmorrhage involve the erosion of a considerable arterial trunk

The use of *aperients* in this malady requires the greatest caution, although, in many cases, they can hardly be dispensed with. It is impossible to doubt that (as a rule) they are given in this and other diseases much too indiscriminately, and often with very prejudicial results. How far they are really necessary in any given case, is, however, a question which it will often be extremely difficult to decide. Still we may recollect, that where little food is taken, or much rejected from the stomach, the bowels often contain so small a quantity of excrement that the need of defecation becomes less frequent and urgent—to say nothing of that abdominal stagnation (if I may use such a phrase) which the the mere act of vomiting itself tends to produce. On the other hand, there can be no doubt that constipation can seriously increase both the pain and vomiting of gastric ulcer:—indeed I have, in one or two cases, noticed a definite and repeated coincidence between paroxysms of these symptoms, and an accumulation of fæces in the colon. But, not to speak of the clue the statements of the patient will generally afford us, a careful examination of the belly will almost always assure us whether the large intestine is really occupied by even a moderate amount of fæces.

Where an aperient is definitely indicated by appearances of this kind, few remedies answer better than caster oil. A moderate dose (six drachms to one ounce) of this purgative can often be taken, in the ordinary way, without at all increasing the pain or vomiting. But where the latter symptom is of frequent occurrence, it is much better to resort to enemata, either of castor oil in emulsion, or of some combination of this drug and the decoction of aloes with the gruel that is usually the vehicle of such remedies. As a rule, large enemata are not advisable, distension of the abdomen being very liable to increase the gastric pain and uneasiness.

The milder aperients sometimes required during convalescence may be given under limitations similar to those already alluded to for the stronger purgatives. When their use can be avoided, it is better to omit them altogether. Indeed, on the subsidence of the more serious symptoms, the state of the bowels often affords a fair test of the efficacy with which the tonics administered are acting upon the system. In any case, an occasional dose of the compound rhubarb pill, mixed if need be with an equal quantity of the compound extract of colocynth, is quite sufficient; or a dinner pill of one or two grains of the extract of aloes may be given daily, with the same object. Of course, the slightest symptom of relapsing pain or nausea would quite contraindicate such remedies. But a proper study of the patient's diet will often enable us altogether to dispense with the use of aperient drugs.

These brief allusions to aperients naturally suggest some mention of the *mercurial* preparations which so often enter into their composition. It would be a dereliction of duty in me not to express the strong opinion I entertain against the employment of mercury in these cases, in any form, and under any pretence whatever. I believe that I have known one or two instances in which the ulcer has been definitely produced by the administration of mercury for other maladies; and am certain that I have witnessed relapses which could only be attributed to a similar cause. A single calomel purgative has even appeared to undo all that months of sedulous treatment had been able to effect towards the relief of a gastric ulcer.

With a different feeling I venture to allude to some other remedies, the efficacy of which has been greatly extolled in this malady. The preparations of silver—and especially the oxide and the nitrate—have been alleged to possess a therapeutical effect of the most marked kind. Indeed it is suggested by some of the advocates of the nitrate that it heals an ulcer of the stomach just as it would an ulcer of the leg;—that it stimulates the languid atonic ulcer to a new action, and soon brings about a process of granulation.

It would be presumptuous in me to question the excellent effects of this caustic in the external ulcers to which surgeons often apply it; though I suspect benefits are often attributed to the stimulus of its application, which depend rather on that coagulum or crust of organic matter which it forms, and by which it so admirably shields and compresses the subjacent granulating surface. But as regards its internal administration, I have no hesitation in saying that, as ordinarily prescribed, it is absolutely inert; that the benefits which have been observed under its use are due, either to the diet or adjuvant remedies also adopted, or to the curative efforts of Nature; in short, that the above estimate of its value really reflects and repeats the fallacy—*post hoc, ergo propter hoc*—which lies at the basis of the fancied cures vaunted by the homœopathic quack.

In specifying the facts on which I ground this opinion, I limit myself to the doses and combinations in which it is generally prescribed.

The constitutional effect produced by the salts of silver when absorbed into the system, I may altogether eliminate from the question. That blue colour of the skin which testifies to its absorption and to its reduction throughout the body is so specific an event, that, in its absence, we have no right to assume any definite series of constitutional effects whatever.* And as the most zealous partizans of these drugs carefully stop short of producing this unsightly and permanent change of colour, we are justified in supposing that whatever effect their doses have is exclusively a local action on the mucous membrane to which they are applied.

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* Thus, for instance, even the astringent effects of lead are rarely or never produced without its characteristic blue line around the gums.

Now as regards any such local action, it is of little consequence whether the half-grain or grain usually given be in the form of a pill or a solution. Far from its giving rise to any symptoms of re-action or irritation, such as we see (and the patient feels) when we apply any form of this caustic to an external or internal surface, the pain and irritation, the feverishness and nausea or vomiting, which have been sometimes noticed to result from the remedy, are expressly regarded as indicating an over-dose. In fact, all evidence of direct stimulation as a result of the remedy would probably be interpreted as proof that it had been wrongly administered.

And just as the absence of all such evidence of the stimulant effect of the drug leaves us in very great doubt whether its known physiological action is really exerted on the gastric membrane, so its equally well known chemical re-actions convert this doubt into denial.

We will say nothing of the chlorides of the food, the chlorides of the gastric juice, the chlorides of the bread-crumb in which it is often exhibited. Suppose all these sources of decomposition carefully avoided,—a supposition, however, that is really untenable, the chlorides of the saliva and œsophageal mucus swallowed with the pill, and of that mixture of these secretions with the bile which occupies the fasting stomach, would suffice (and more than suffice) to convert any ordinary dose of nitrate or oxide of silver into this insoluble compound. And what chance a tiny pill has of seeking and finding in the stomach a resting place that exactly corresponds to the ulcer, or what chance an ounce of liquid has of being uniformly diffused over the gastric surface of about 180 square inches, and then of super-saturating the mucus of the same place, it would be really absurd seriously to inquire.

I need scarcely say that, in urging these objections to the efficacy of the oxide or nitrate of silver, nothing is further from my intention than to deny that patients have ever recovered under its administration. But considering that we may allege the same fact of almost every curable malady, under every "panacea" with which quackery has ever afflicted mankind, few would be inclined to lay much stress on it. Indeed, its explanation is sufficiently obvious. Pathological research conclusively shows that ulcers of the stomach often undergo a spontaneous cure. The careful system of diet which it is customary to adopt in conjunction with the remedy, is itself sufficient to account for all the benefits observed. And I am persuaded that the physician who judges of the efficacy of his remedies without allowing for the natural tendency of disease to recovery, and for the effect of proper diet and regimen, while he shrinks from testing their traditional virtues by a careful scrutiny of their physiological effect in the healthy subject, and their therapeutic* influence apart from diet,—that such an one, I say, has nothing to prevent him from exchanging one system of credulity for another, and enlisting under the banner of any the most abject quackery of the day.

Diet.—The comparative importance of this element of treatment has already been alluded to. So far as I can judge, it is impossible to cure ulcer of the stomach by any remedies, in the absence of proper regimen. It is probable that in many of those cicatrized ulcers which have been verified by a necropsy, the patients' own feelings had guided them to such a diet as might fairly have been regarded the agent of the recovery. It is quite certain that many cases have been cured by the observance of a rigid system of food, which has been prescribed by the medical attendant to the exclusion of all drugs.† Hence, though the latter are (in my opinion) invaluable as aids to a strict diet, they are powerless as substitutes for it. And in no disease is it therefore more important for the physician to protest against that common error of the unprofessional public, which looks upon the deglutition of a certain quantity of more or less nauseous drugs as the sole condition of their cure.‡

The system of diet which experience shows to be the best treatment for this malady is based upon certain simple and well-ascertained principles in the physiology of digestion; such as have but to be mentioned, to be at once admitted as unquestionable. The sufferers from this disease find their symptoms greatly aggravated by copious meals; by animal food; by hard, tough, and indigestible substances, by hot food or drink; and lastly, by irritant substances. While, conversely, the use of bland non-azotized food, of soft pulpy consistence, at a cool temperature, and in small quantities, not only relieves the symptoms, but often, if steadily persevered in, cures the malady altogether. And every one of these circumstances precisely corresponds to what the physiology of digestion and the pathology of the lesion might, *à priori*, teach us to expect. The organ which the ulcer occupies is stimulated to activity by the mere ingestion of food; is stretched and distended by a large meal. And just as the ulcer will necessarily share in these effects, so its raw surface will be stimulated by the heat, and by any mechanically or physiologically irritant qualities, which the food may possess. Lastly, as it is the express function of the stomach to dissolve the proteinous constituent of the food, the amount of this constituent present in the diet adopted will not only, to some extent, measure the degree and duration of the activity of the organ, but may also specially affect the ulcer by regulating the quantity of gastric juice secreted into the general cavity of the stomach which the lesion occupies.

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* Such a therapeutical influence—a matter of immediate and frequent experience—as is illustrated, under just these circumstances, by bismuth, alkaline carbonates, and many of the so-called "carminatives."

† The case of Béclard the French anatomist seems to have been an example of this kind. He died at an advanced age, after a long period of perfect health; and the scars of two ulcers were found in his stomach.

‡ I am persuaded that in many of these cases it would be far better for the character of medicine in general, and of the physician in particular, were the latter resolutely to decline further attendance on patients who accept his drugs while they resist his rules respecting their diet and habits.

The various requirements hinted at in the preceding statements are best fulfilled by milk diet, given in small quantities, at frequent intervals. This fluid, the natural food of the young animal, and the model alimentary mixture of the scientific cook, not only contains all the substances necessary for the organism, in suitable proportions to each, but in a state which specially favours their digestion, and involves no mechanical irritation of the stomach. The quantity of protein, for example, is such that there is little risk (as in the case of even the purest articles of vegetable food) of our depriving the organism (perhaps already exhausted by disease or age) of its necessary supply of this indispensable constituent of food. While, conversely, it probably does not much exceed the proportion which the needs of the system will require.

It is chiefly by the irritability of the stomach, as tested by the frequency and facility of the vomiting, that we must be guided in our selection of this or that particular form or modification of milk diet. Where the stomach is excessively irritable, the milk may be sometimes better borne when diluted with half or one-third its bulk of lime water, or after a preliminary boiling. In rare instances, a little fresh curd, mixed with a thin pulp of arrowroot boiled in water, seems preferable even to these. As a rule, however, good new milk is far more easily taken than either of these modifications, and the chief efforts to adjust it to the stomach are to be made by carefully regulating its quantity.

Where the more moderate irritability of the stomach allows a better chance of food being retained by the organ, it is very important to give articles of diet which possess greater consistence. This is best effected by mixing with the milk any of the purer varieties of starch, and boiling them together into a thin pulp, which of course must only be taken when cooled. Arrowroot is especially to be recommended for this purpose. Sago and tapioca are generally less easily borne. The gradations of quantity and frequency must also be carefully prescribed for the patient. The advantage of taking a single spoonful of such food for a meal consists in the fact that not only is all distension of the stomach thus avoided, but also that the food is thus enabled to leave the stomach shortly after entering it, becoming merely impregnated, as it were, with gastric juice, before it passes on into the duodenum, to receive its complete solution there.*

The frequency of such meals must of course be regulated by their quantity, as well as by their effect on the stomach. Thus, supposing them not to excite vomiting, from eight or twelve meals of a single table-spoonful or dessert-spoonful of the above articles of food will not be too much during a whole day—a number which would obviously demand their being repeated as frequently as every two or three hours.

As convalescence begins and proceeds, it is important to keep up as rapid an advance in the scale of diet as prudence will allow. We may first vary the pure starch of arrowroot by passing on to sago or tapioca, before venturing on the moderately proteinous ground rice, or rye, or wheaten flour. Ground rice I have generally found well borne, and both in respect to its consistence and composition, it forms, with milk, an excellent staple food, on which many persons can live without any risk for days and weeks together. Wheaten flour is best given in the shape of biscuit powder, or bread steeped in boiling water, and pressed through a muslin sieve while still hot (bread jelly) boiled with milk. Sugar must be added with great caution, as it is very apt to provoke flatulence.

It is chiefly when, from such a diet, we desire to advance to ordinary animal food, that the greatest difficulty will generally be felt:—a difficulty which a foreigner unacquainted with the barbarous processes by which we cook our food could scarcely appreciate. Strong beef-tea is rarely well borne, and boiled or roast meat is too sudden a change; indeed, if badly chosen or cooked, it may do serious mischief. It is my usual practice to begin with some boiled white fish, such as sole or brill, carefully freed of all bones, and mixed with mashed potatoes or water arrowroot in small quantity. But a tender meat very slowly stewed, so as to form what the French call "bouillie," is almost as good, though far less likely to be obtained by most patients. Of course I am not supposing that it would be impossible for a recovered patient to live on vegetable food with the aid of milk; but so few persons can be trusted or expected permanently to isolate their habits from those around them, that we have practically no choice but to arrange for their return to the ordinary diet of health. There are many other articles of food (which it belongs to a cook rather than a physician to suggest) that must be taken with the same precautions as to quantity and consistence which we have already mentioned for the milk diet.

The idiosyncrasy of the patient often obliges us greatly to modify any such plan as the preceding. Sometimes water may be advantageously added to the milk, though it can be rarely substituted altogether for the more nutritious fluid, unless something stronger than arrowroot be given with it. Some patients can soon take an egg beaten up with their farinaceous food; while in others I have known it aggravate the (previously improved) symptoms. Some take cold tea with advantage; although, as a rule, this fluid ought to be strictly prohibited. In short, the diet—nay more, the cookery—in each case requires careful observation, as well as great prudence and tact. Every change is to be regarded as in some degree an experiment, the carefully observed results of which can alone justify or forbid its continuance.

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* The grounds of this statement will be found in the Author's Essays, *Stomach* and *Intestine* (Cyclopædia of Anatomy, Supplement, pp. 315, 349, 398).

The question of employing *stimulants* naturally claims our notice in connexion with diet, although we have already briefly alluded to them in speaking of the drugs sometimes indicated by the exhaustion or cachexia which, in varying amount, it is usual for gastric ulcer to produce. As a rule, it is indispensable to avoid all use of alcoholic stimulants. Even in the extreme exhaustion produced by protracted and frequent vomiting, it is generally advisable so far to keep to this rule as to administer whatever alcohol seems necessary to the shape of an enema.

The exceptions to this rule are rather to be hinted at as contingencies than stated as facts. In respect to absolute experience, I have certainly known one or two glasses of sherry, and even one or two tumblers of beer, to be taken daily without much appearing to impede the cure of what seemed to be an ulcer of the stomach. But I do not think the comparatively slight mischief which the disobedience of these patients produced is at all incompatible with the rule above laid down. So many of the middle-aged subjects of this lesion are persons of intemperate habits, and so much does the lesion itself increase the depression and cachexia these habits produce, that it is quite possible the constitutional advantages of a moderate amount of stimulus may sometimes exceed (in other words, more than neutralize) the bad effects of that local irritation which the raw surface of the stomach is sure to suffer from its application.

Of course, if any form of alcohol were admissible, it would be a pure dilute fluid (such as weak cold spirits and water) in very small and frequent doses. Raw spirits, brandied or strong wines (such as Marsala and sherry respectively), are inadmissible, from their irritant effects. And such compound and artificial drinks as ordinary port, beer, or champagne, are still more objectionable, their sugary or fermenting constituents generally aggravating the effect of the alcohol to a remarkable extent. The effect of the true or natural wines in small quantities I am hardly qualified to speak of, though, from one or two instances, I am entitled to believe them much less hurtful.

This antagonism between the local and constitutional effects of alcoholic drinks in the gastric ulcer may well suggest the inquiry whether there are no stimulants which may afford us the advantages of alcohol without its disadvantages? The importance of this question will excuse my pointing out, that what I have already had occasion to say respecting the merits of opium will, to some extent, apply to the class of sedatives in general. But the peculiar stimulant effects of *opium* make it by far the most valuable of them all.

Respecting the operation of this drug in gastric ulcer, I might say much that would be both interesting and true, but nothing that would include those elements of accurate physico-chemical research on which alone a conscientious physician ought to base his theory of the action of this or any other medicine. As regards mere facts, I am quite certain that, though the pain often present in these cases is of course an additional indication for the use of opium, yet it is by no means the chief (far less the only) guide to its administration. It is not as an anodyne, not even as a sedative, that the opium seems to be most useful. On the contrary, my experience would lead me to conclude, that it is especially in ulcers of long duration, of large size, of obstinate character, and in broken, exhausted constitutions, that this invaluable remedy comes most fully into play:—and that the condition these circumstances presuppose being present, its use is not one whit less advantageous, even though the habitual pain is but trifling, or though (far from having to replace the customary alcohol of the drunkard) it is prescribed for a patient who has been always of temperate or even abstemious habits.

In short, I am anxious specially to urge upon the profession the importance of giving opium in this serious (and, as my researches will show, frequent) disease, with just the same views as those with which it has long been employed in phthisis, or (a still more apt illustration) in diabetes. To relieve this or that pain, or to check great irritation or undue secretion of this or that mucous membrane, supposing such symptoms to be present. But to support the strength, to buoy up the nervous system, and to check the waste or expenditure of the tissues generally, whether the above local symptoms are present or no. That it is thus opium aids to heal a gastric ulcer, I can scarcely doubt. And that, in this way, the same drug which diminishes the saccharine constituent of a diabetic patient's urine,* may also check that destructive absorption which a gastric ulcer expresses and measures, is quite in accordance with all that we know respecting its power of lessening bodily waste.

But I am more anxious to state the fact of its usefulness in combating this lesion, than to explain the principle upon which it does so. It is, therefore, with very great pleasure that I have found my own experience of its efficacy in the ulcer of the stomach confirmed by the statements of other observers with respect to its uses in ulcer of other parts of the body. The reader may take the analogy of the two classes of ulcerative lesion at what it is worth; and may estimate at a higher or lower rate that remarkable parallelism which the pathological details I have established respecting gastric ulcer exhibit with the ordinary ulcer of the leg as shown by Mr. Critchett's able treatise. But should he be disposed to accept statements founded on so much toilsome clinical research as mine have been, he will probably hardly fail to be struck by their perfect agreement with the independent results of a better authority in the treatment of a kindred disease. Allowing for the situation of the lesion, and for a variety of details which that situation chiefly dictates, there is hardly any difference between the opinion I have come to respecting the efficacy of opium in ulcer of the stomach, and that which has been so clearly and happily put before the profession by Mr. Skey as the result of his large hospital practice with respect to its benefits in ulcers of the limbs.

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* The therapeutics of diabetes are even now the object of such striking differences of opinion and keen discussion, that the above statement demands some further allusion. Several years ago, I happened to have under my care, in the Royal Free Hospital, a group of two or three cases of this malady, and availed myself of this opportunity for a very careful and thorough inquiry into the value of various remedial agents on this deadly disease, as shown by the degree in which the saccharine contents of the urine diminished under their use. The chief conclusions I came to may be very briefly summed up. The diet usually adopted in such cases accomplished a great deal; and certain modifications of it, in special instances, appeared to effect a little more. Opium procured a very decided advance on the benefits secured by diet. But neither alkalies, alkaline carbonates, strychnia, cod-liver oil, permanganate of potassa, nor many other of the drugs from time to time vaunted as specifics by the indiscreet zeal of their partizans, appeared to produce any definite advantage whatever. Proper variation of the conditions of observation always negatived any fancied benefit at first observed under their use. Some sedatives, however, appeared to imitate the effects of opium, at a long distance of value.

Many months afterwards, I happened to converse with Dr. Garrod on this interesting topic. To my great satisfaction, I found that he had, at the same time, been engaged in a precisely parallel series of researches, conducted, however, with much greater chemical skill than my own could pretend to. These researches had led him to what were substantially the same conclusions.

As regards the method of administering opium, where vomiting is moderate, or where diarrhœa is prominent, the compound kino powder is a very convenient formula. But when vomiting is at all excessive, or resists a combination of this powder with bismuth, the drug is generally better borne in the solid form; either as a small pill of the watery extract, or a few grains of the compound soap or styrax pill, two or three times a day. The effect of opium given in this way seems to be often quite as striking as the ordinary ulcers of the leg.

For the same elderly or intemperate class in which opium is so generally beneficial, other sedatives will occasionally afford similar (though less marked) results. Hyoscyamus, conium, belladonna, and other extracts of this kind, may thus be of benefit, though I have rarely had occasion to resort to them. The extract of hemp some-sometimes answers admirably; indeed, were its effects more uniform, it might often be advantageously substituted for opium itself.

In all cases, the return of the convalescent from gastric ulcer to his ordinary diet, should by no means end his precautions with respect to the disease. Many months after a complete recovery I have known a single excess bring back the whole train of symptoms, with all their attendant dangers. It is therefore only after the lapse of a long period of perfect health that we are justified in suspending the system of diet now described. And no lapse of time will permit the person who has once suffered from this disease to lay aside many of the above rules. The patient ought, in fact, always to retain the habit of taking food in small quantities; making up, if need be, for this by a greater frequency of meals. His food ought not only to be well chosen, and good of its kind, but well cooked and carefully masticated, so as to secure its reaching the stomach in a proper pulpy consistence. And hot food or drink ought to be systematically avoided.

We may end these allusions by offering two precautions respecting the mechanical treatment of gastric ulcer which ought never to be neglected. Firstly, as regards its situation, it is very important to avoid all pressure on the epigastrium, especially where there is much tenderness of this region to such interference. The injurious effect of tight stays, or of any hard substance (such as the end of the last used by shoemakers) is of course obvious enough; though I have reason to believe such pressure may rupture a stomach without its habitual application previously producing much pain. But in the examination which the physician has to make (and which is sometimes imitated afterwards by the patient), we are ourselves bound to remember this injurious effect of pressure; and to be not only very gentle in our manipulations, but very sparing in our repetition of them. Secondly, all violent exercise must be avoided. In cases where life was threatened by hæmatemesis, or by constant vomiting, few would forget to adopt this precaution; indeed, the feelings of most patients would soon enforce the recumbent attitude, even if the medical attendant did not prescribe absolute rest in the supine posture. But in persons who merely regard their complaint as an aggravated indigestion, it becomes more necessary to state such a rule;—a rule the infraction of which may be punished at a moment's notice by the terrible accident of perforation, and is almost always attended with both local and constitutional results in the form of pain, vomiting, fatigue, or exhaustion.

Brook-street, Grosvenor-square, Oct. 1856.

ON ORGANIC HARMONIES: ANATOMICAL CO-RELATIONS, AND METHODS OF ZOOLOGY AND PALEONTOLOGY.

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CHAPTER I.

Whilst revising my inquiries into the Natural History of Man, with reference more especially to his physical structure, my attention was naturally directed to the relation of species to genus or natural family, and of natural families to each other. According to the view I had always adopted, it was impossible for me to view man apart from the rest of the animal creation, nor could I see in his seeming isolation from all other races of animals anything more remarkable than the obvious and universally admitted fact of the isolation of all species of animals from each other.

The various methods of classification in zoology were thus again brought before me; the method of the mere naturalist, derived mainly, if not solely, from a consideration of the external characters of the adult individual; the anatomical method, which received its full development at the hands of the illustrious Cuvier, he who first invented and discovered *true descriptive comparative anatomy*, who applied it to the living animal kingdom, and who, following up his great discovery, based on the value of comparative anatomical details, applied the method to the fossil remains of former worlds, restored the skeletons of animals which had long ceased to live, and in the brief space of his short and active life extended the boundaries of human knowledge and of human mental vision beyond what the united efforts of all inquirers had done since the commencement of human history.

But Cuvier and his illustrious contemporaries, De Blainville and Geoffroy, were too accurate thinkers to employ any method in a science of simple observation to the exclusion of others; accordingly we seldom find them neglecting any source of information calculated to illustrate the natural history of the animal they happened to to be at the moment considering. Nevertheless, this departure from their acknowledged mode of research did occasionally happen, and I used to cite the dugong as an animal whose place in the zoological scale had seemingly been misunderstood by Cuvier, mainly from a neglect of the very method, the anatomical, peculiarly and exclusively his own, and to the employment of which he owed his justly-merited immortal fame.

Though much devoted from my earliest years to merely anatomical pursuits, and, as a natural consequence, prone to overlook the value of external characters, this habit was soon corrected by a residence in South Africa. "The exterior," in that brilliant field of natural history, was too well marked to be overlooked. From that period I am not aware of ever having underrated its importance; and the Memoirs I have lately published in the "Zoological Journal" of Mr. Newman, (Van Voorst,) and in THE LANCET, sufficiently prove the value I attach to the external characters and to the dentition in the determination of species, in the tracing their affiliations to natural families, their production and extinction in time and space.

Thus I may venture to say, that it has always seemed to me that, as regards zoological classification, the anatomical method, though the best basis, and forming indeed the only basis, which in zoology cannot be dispensed with without relapsing into the ludicrous errors of antiquity, nevertheless requires to be associated with the method by external characters; these being, in fact, the only ones presented by Nature to man—the characters by which Nature has most clearly and distinctly characterized species and genus—characters which seem quite as unchangeable as the anatomical, fixed and durable as the globe itself.

Whilst pursuing the same inquiry, and endeavouring to test the advantages of these methods separately and combined, by applying both methods to the zoological history of the dugong, which I had purposely selected as one of a now existing natural family, and as one respecting which extremely discordant opinions are still held by eminent zoologists and anatomists, I accidentally met with a passage or two in the Manual of Zoology, by M. Milne Edwards (a work I have recently translated), which showed me that there is a class amongst modern zoologists, rigid followers of M. Cuvier, who believe that the anatomical method invented and applied by him to the classification of the existing fauna, and to the restoration of the extinct, was actually elevated by him, first, to the dignity of an exact science—almost geometrical; and, second, that he, the great anatomist, trusted to it solely or mainly in his celebrated restorations of the extinct species. Now I was, indeed, aware, that in England one or two anatomical zoologists, if I may so term them, had pinned their faith and future reputation to these two errors, for such they assuredly are; but I was not aware, until I translated the valuable work of my distinguished friend, M. Edwards, that the doctrine had been received unreservedly in France, without even those qualifications and reservations which the sagacious and prudent Cuvier (and no man ever excelled him in these qualities) had carefully appended to all his views, theories and methods.

The question or questions involved in the discussion deeply affect the fundamental principles of physiology, zoology, and paleontology. By one extreme, they touch the essence or philosophy of living things; by another, simpler and more mechanical, they include the doctrine of final causes. In this chapter, it is my intention to confine the consideration to the anatomical method simply, as furnishing laws in zoology and paleontology—laws admitting of *à priori* deductions, certain fixed, immutable, unalterable by time or circumstances, without reservation or exception. Second, whether Cuvier, in claiming for his deductions, based on certain anatomical co-relations (another term for organic harmonies), really acted under the belief that he had discovered co-relations of structure, necessarily involving each other, somewhat in the relation of cause and effect, and which, though not invariable and equal, which they could not well be, were invariably co-relative, holding to each other a relation as constant as the gravitation of ponderable bodies to the earth, of a perpendicular to its base, a right angle to an obtuse; as certain, in fact, as that the sum of two and two must be four; that the radii of every circle, from its centre to the circumference are invariably equal.

As a preliminary remark to whatever may follow in detail, I think it right to observe in this place—first, that the distinguished zoologists, such as Geoffroy and De Blainville, colleagues of M. Cuvier, and whose friendship I had the pleasure of enjoying uninterruptedly from 1821 to the period of their decease, seemed to me never to have placed any implicit confidence in the method of M. Cuvier, viewed *as a law*; in fact, they did not seem to think these anatomical co-relations to be positive laws, on which any *à priori* reasoning could be founded, but simply as deductions, singularly beautiful, no doubt, but derived from an infinite amount of research into the existing fauna, into the anatomy, physiology, and zoology of the known living animal world, and applied to unknown species and genera as they appeared from time to time, in the living and in the extinct. This, at least, was my own view, and I may refer to memoirs read to the Royal Society of Edinburgh as early as 1827, '28, and '29, and subsequently published in their "Transactions," in proof that at no period of my own inquiries had I ever accepted as philosophical laws the empirical deductions of Cuvier. Secondly, it was always my belief that Cuvier himself had no faith in his deductions as *laws*, and that, indeed, he constantly appealed to the empirical method of direct observation; that, in point of fact, the teeth predicted nothing certain as to the stomach and limbs, and *vice versâ*. To understand the full import of certain passages in the first volumes of the "Ossemens Fossiles," reference must be made to the character of the period of the author and to his position. This being understood, the contradictions which exist in his great work become, if not reconcileable, at least readily explicable.

Had I not had the good fortune to have made the personal acquaintance of Cuvier so early as 1821, I could never have understood how so cautious an observer—a person so devoted and wrapt up in what could be proved anatomically—a person so extremely sceptical as to transcendentalism in any form that he could not even tolerate its discussion in his presence—could ever have penned certain passages in the first volumes of his works, claiming for his *method of restoration* the merits of a fixed science. The whole secret was at once revealed to me by observing his position in the Academy in France and in the civilized world. Humboldt, Laplace, Biôt, Arago, Ampère, Fourier, and, indeed, nearly all the illustrious mathematicians of the age, were in that Academy, but they seemed as second-rate men compared with the immortal Cuvier. He walked as if conscious of having revealed truths to mankind superior to all that geometry, mathematics, science, or literature had ever done. And this, to a certain extent, was true. His aim of necessity became a struggle to retain and maintain that position with the world which he had first gained in it, but, above all, to hold his ground within that frigid, reasoning, sceptical, calculating, geometrical, scientific Academy to which he belonged, and of which the great world declared him to be the first and greatest. Now he felt instinctively that, with the rigid mathematician, no efforts of his or of any one else could ever actually place anatomical co-relations, organic harmonies, final-cause theories, on a footing with the fixed sciences; but these great men were few, and their admirers still fewer. Paleontology, which he had discovered, on the other hand, was a new science, brilliant and captivating, and had taken the world by surprise. Transcendentalism and the transcendentalists he instinctively dreaded, and he seemed always to take a pleasure in pointing out to me, as if aware of my bias in favour of positive anatomical research, that none of these transcendentalists were anatomists properly so called. As a scientific man, he very naturally had a low estimate of the theologico-geological school of England; but, ever cautious, he was courteous to its supporters, and made no remarks on their views. Thus noting his position, immediately after my return from Africa, I was not surprised at the attempt he had made to raise the anatomical method to the dignity of a fixed science—a position from which I felt certain it was sure to descend from the time of his death, whenever that might happen. I witnessed the first attempt of the transcendentalists to introduce their views to the notice of the Academy, and could easily foretel its failure *so long as Cuvier lived*. To attack Cuvier was to assail the dignity of France. At last, in 1830, Kaup and others, formally and in Paris, objected to a doctrine, which a careful consideration of the anatomy of the ornithorynchus and echidna, of the fossil saurian and pterodactyle—nay, the simple reflection that no *necessary relation* exists between any two structures whatever—would at any time have refuted. Structural relations are varied without end; scarcely any structure may be said to verify another, nor does the mind absolutely and instinctively expect or look for any such co-relations. With the fixed sciences it is precisely the reverse; their laws never vary; no sane person doubts their axioms or results. With living matter it is wholly different, and the mind is prepared by the very mystery of life to *expect nothing*, to *predict nothing*, to calculate on nothing, but simply *to observe*.

Preceding his great discovery of the essential differences between the living and extinct animal worlds, Cuvier's genius and good fortune had placed in his hands grand instruments of research, without which there could be no demonstration of the truth. He was already a profound descriptive anatomist, versed in all the forms of existing animal life, and the anatomical co-relations which these forms present. These he applied physiologically and zoologically. The teeth of the tiger and of the pure carnivora coincided with certain other structures, anatomical and physiological, and these co-relations he fancied not only to be invariable but necessary. How he could think so, admitting to the full their application to the pure carnivora, is explicable only, as I think, by what I have said in respect of the period, the position, and the man.

Beyond the natural family formed by the carnivora, there is not a single anatomical co-relation which remains correct; or, in other words, *a law applicable to the living and extinct zoologies, by which and from which may be reconstructed out of fragments the animal itself, deduced, à priori, from the fragment, and without any further appeal to the anatomy and natural history of the animal itself*—that is, *irrespective of direct or empirical observation*. If the teeth *of necessity* give rise to a certain form of stomach, how is it with the human structure?—what co-relation exists there? How is it with the teethed cetacea?

"Give me the teeth," said Cuvier, "and I will describe the stomach, the feet, the skeleton." Now, given the teeth of the dolphin, porpoise, seal, bear, pig, how stand the co-relative structures?—what has become of them? Given the paddle-shaped limbs of the fossil and extinct saurian *alone*, no anatomist that ever lived could possibly have conjectured the truth of a fragment of the rest. The osseous shoulder of the echidna found alone, the pelvis, with its marsupial bones, would have defied all conjecture as to the nature of the animal, but for the dissection of the entire specimen.

Pursuing the same train of observation as regards the strictly herbivorous, it was easy to see that the tooth of a truly herbivorous animal is unfitted for the tearing of flesh or breaking of bones; but nothing in anatomy warrants the assertion that the teeth of ruminants cannot possibly coincide with any other than a quadruple stomach and a cloven hoof, or *vice versâ*. No anatomical co-relations exist by which, *à priori*, might be deduced from the teeth the form of the human stomach, or from the stomach the character of the human teeth; from the teeth and whalebone the internal structures of the cetacea, or from these latter the character of the former. All must be dissected, examined, recorded, and treasured up in the memory—nothing omitted, seeing that there are no laws by which any structure can be foretold *à priori*;[*] they cannot be reduced to a scientific formula.

The grand idea that the extinct zoology differed specifically and generically from the living, had occurred no doubt to many others long prior to Cuvier; but no one before him was in a position to prove it, because *he alone was actually the only true comparative, descriptive anatomist that had lived up to that period*; he alone retained the facts in his memory, or at least had the means at hand to compare the recent zoology with the extinct; nay, what is more, he alone knew the value of such a comparison, and, I could prove beyond dispute, were it necessary, that at the period I speak of, and for a long period afterwards, there was not a zoologist or a paleontologist in Europe who correctly understood the full value of, and the true relations of, comparative anatomy to physiology, zoology, and paleontology. The skeletons of animals presumed to be extinct mammals were at last found. Now these belonged "either to existing animal forms, or they did not." Thereupon Cuvier applied his method of comparison and inference—the extinct with the living. The result was the discovery of paleontology,—of geology, properly so called—the greatest perhaps of all discoveries. Had genius alone sufficed to have made and perfected this discovery, it would and must have happened long before. Palliset and Fontenelle, Liebnitz and Pallas, Camper and Hunter, Linne and Buffon, had all suspected the existence of a former organic world distinct from the present. If laws of organic harmonies sufficient to solve these difficul questions *à priori* could have been discovered by genius alone, most assuredly they would have been so; but, properly speaking, no such laws exist. The deductions are the result of direct comparison with other similar objects—in fact, of immediate observation. They are strictly empirical observations, and not scientific laws.

Amongst the earliest of Cuvier's discoveries was that of the fossil crocodiles. Could he have foretold from them, or from all his immense researches, the existence of the monstrous forms of the extinct saurians? By what laws, what anatomical co-relations could he have foretold the existence of the pterodactyle? the dinotherium? the sivatherium? the wholly inexplicable fossil of Southern Africa. Let us suppose that at first, and for some time, the lower jaw only of the anoplotherium had been discovered, how far would the restoration have gone in the absence of the other structures? By what law could he have foretold the nature of the canine and incisives in both jaws had the fragment first seen contained only the molars? And had the head only been discovered, what are the laws by which he was to have foretold the form of the feet on his favourite principle of "a bone being given, all other structures may be restored?" Will any anatomist in the world pretend to say what must have been the form of the stomach of the anoplotherium; or of the intestines? The head of the saurians being given, could any one have predicted the form of the limbs? or the limbs alone having been recovered, where are the laws by which the structure of the head, and the nature of the animal, could have been told *à priori?* And having, after much labour and consideration, arrived at the conclusion that the anoplotherium must have been a pachyderm, or at least related to them, a follower of the great anatomist gives some reasons, drawn from that science which Cuvier rejected—the transcendental—for placing the anoplotherium in another class, and receives it in fact as an overgrown, non-developed baby—ruminant.[*]

Such have been some of the singular and, indeed, ludicrous results of mistaking for a fixed science a science of observation—a science which can, in my opinion, only become so when, by the application of the same instrument of research, the anatomical, the laws regulating the transformations and development of the embryo shall have been fully traced. This principle I endeavoured, some time ago, to carry to a practical result by applying one of its laws to the transformations of the forms visible and recognisable in the young of the salmonidæ, a natural family to which I had given a good deal of attention.[†] In the very young of any of the species, I showed that it was easy to recognise nearly all the known species, or at least, all the sub-families, of the family; and as the individual grew, by retaining certain of the existing specific characters, and suffering others to escape or disappear, it assumed its ultimate specific character The same remarks applied to the dentition of the family. But such laws require to be employed with great caution and extreme reserve to the higher forms of organised animals, and, for a time at least, to be reserved only for the more obvious and nearly-related of affiliations,—that is, amongst the species of a single natural family. Thus, the young eland of South Africa shows at first the colour and stripes of another species of antelope, and it is only when grown up that it assumes its true specific colouring or robe; the colt of the domestic horse resembles much more, in shape, colour, and mode of progression, certain species of the wild horse peculiar to Southern Africa, or perhaps to the great Steppes of Asia, than it does its own parents; and thus I endeavoured to show that *generic* forms precede specific, perhaps in all animals; that these generic forms imply a generic propagation as well as a specific; and that in these generic forms it seems reasonable to look for not merely all the present specific forms of the natural family, but the past or fossil and the future. Nevertheless, and notwithstanding the elasticity of so high a generalisation, I felt reluctant for the present to go further, and to extend the applications to animals of different families; and thus was scarcely prepared for the rapid extension of the principle to animals of different natural families. The anoplotherium, after the maturest deliberation, was arranged by its discoverer—the anatomist who created paleontology and geology, and introduced into zoology the only basis on which it could solidly rest—amongst the pachydermata, or at least closely allied to them. For many reasons, zoologists will naturally feel averse to its removal therefrom. True, rudimentary incisor teeth have been shown to exist in the upper jaws of ruminants. There is nothing extraordinary in this: rudimentary teeth were proved to exist in both jaws of the whalebone whale—the mysticetus—by Geoffroy and myself, more than thirty years ago, but he did not think it necessary therefore to remove the whalebone whale from his position amongst the toothless cetacea, nor to make of it a huge, undeveloped, embryo dolphin. The class ruminants may have rudimentary incisive teeth, and yet be no nearer the anoplotherium or the pachyderms than they were before, at least for any practical purposes of classification. All such speculations belong to philosophy or science, and not to natural history, properly so called, which has to do only with the adult and with species as they appear to man, and not as seen through the magnifying, and it may be distorting, glasses of transcendentalists high or low. But a few years ago the English transcendentalists proclaimed themselves to be low transcendentalists, and maintained Oken and his followers to be decidedly insane—a remark I heard from an illustrious French savan in Paris so long ago as 1822. That the same opinion of the ingenious and gifted German prevailed in England until a very few years ago is a fact beyond all dispute. Since then—that is, since the translation of Oken's work—the doctrines of this worthy and simple-minded enthusiast have been all the rage in England, taken up *con furore* on this side of the channel so soon as they had been laid down on the other. The movement reminds me of the *restoration mania* in the hands of some of the theologico-geologists of England. How they guessed at the fossils!—at the troops of hyenas (which never live in troops) that scoured the fields of ancient Britain, dragging to their caverns everything they could collect, from the mouse to the rhinoceros! How these same persons mistook water-worn bones for bones gnawed by these same hyenas—antediluvian, of course, and wholly unlike the degenerate postdiluvians, which lead a solitary life, and never collect victuals in caverns! How the dinotherium lived—how he was made. What were the external forms of the saurians? What were the external characters, and what the habits of the dinotherium? All symptoms of highly fanciful imaginations, which, disdaining the slow steps of a science they do not rightly comprehend, aim at dictating to Nature, substituting for the facts which our limited senses enable us from time to time to collect—a moral and a physical system, as restricted and as weak as human reason is proverbially admitted to be.[*]

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[*] See Transactions of the Royal Society of Edinburgh, vol. x. 1822.

[*] Owen on the Ruminants.

[†] Zoological Journal, part i. THE LANCET, July 14th, 21st, and 28th, Aug. 25th, Sept. 1st, and 8th, 1855.

CHAPTER II.

Thus, as I have explained in Chapter I., that certain anatomical and zoological inquiries seeming to me requisite, as preliminary to more minute researches into the natural history of man—viewed by some as the most important, by others as the least important, of all inquiries,—my attention was directed to the relations of species to each other, and of natural groups in like manner. It was natural for one who had devoted nearly his whole life to anatomical research to give a preference to this line of inquiry, though free to admit—which I had indeed asserted many years ago—that, however essential to zoology, anatomy was not all in zoological inquiry; that by it alone, especially if confined to the skeleton and teeth, the nature of many animals could not be ascertained, nor their place determined in the great scheme of creation. Valuable, most valuable, as are the facts drawn from the anatomy of the skeleton and teeth, I have found them but too often at fault when an attempt was made to apply them to animals still living, but unknown to the anatomist; and especially and remarkably to those species and genera of the vertebrata which once lived on the surface of the earth, but which are now no more. In a word, the conclusions I had arrived at and publicly recorded[*] many years ago, and with which, as I understood, most continental anatomists had long ago coincided, were—

1. That the co-relation of anatomical forms

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[*] See Great Artists and Great Anatomists. London: Van Voorst.

[†] Transactions of the Royal Society of Edinburgh, vol. x.

employed as a paleontological method, and deduced as they must necessarily be, for the most part, from a consideration of the skeleton generally, though occasionally combined with the presence of the teeth, could in no way be depended on; admitting, at the same time, that such co-relations exist, and that the method might be perfected by a discovery of Nature's scheme or plan.

2. That the plan or scheme was not to be discovered in the doctrine of animal mechanics, using the term to mean the application of the doctrines of a final cause.

3. That when the illustrious and immortal Cuvier, to whom intellectual man owes so much, imagined that he had discovered a paleontological method of universal application, in the structure of the skeleton and the character of the teeth,—a method applicable to the unknown and hitherto unexamined living, and to the extinct and for ever unexaminable, that is, the animals whose existence can only be proved by their fossil remains,—he misled himself and the great world at the same time on three essential points—namely, first, that the obvious co-relations of forms in certain well-marked characteristic animals, as the carnivora and ruminants, which common sense rendered obvious, were universally applicable to Nature's grand zoological world; and secondly, that the co-relation amounted to a law, a zoological problem as readily determinable as a mathematical one: "a tooth or nail-bone being given, to determine from it, or by it, the anatomy, physiology, species, genus of the animal to which it belonged; its position in time and space; living or extinct." It is into this second field of delusion that certain English naturalists and zoologists have chiefly wandered, running a muck, as is usual with the English when they at last adopt a continental theory after having scouted the idea for years. The third delusion was that there exists some invariable relation, amounting to something like cause and effect, whereby one structure of necessity produces another, and all its consequences; and as a sequel and a necessary result, the anatomical method becomes entitled to the character of a science based on *à priori* reasoning, and not as the mere result of direct intuitive, empirical observation. But this last delusion, if I mistake not, is confined nearly to one school—the English; it emanated from London, from whence it spread throughout the kingdom. I know of no continental zoologists of any note who ever believed in it. Of one thing I am quite certain, that I never did. I lectured on comparative anatomy from 1825 to 1827 inclusive, and on human anatomy for about twenty years, so that there must be now many alive who can bear me out in what I am about to say. To attack or defend the doctrines of the immortal Cuvier is equally superfluous; his great discoveries have been tested and approved of; his theories, for, like all men, he had his theories, and his contradictions (of which, also, he had a few), must undergo the ordeal of the sieve of time, into which successive generations cast the opinions of their predecessors—of Aristotle and Bacon, of Descartes and Liebnitz, of Newton and Locke, and of one second to none of these, George Cuvier. The gold passes, the base material is retained, and sternly cast aside upon that mountain mass of shapeless dross, that world of opinions, perhaps to be re-submitted, at some future day, to a sieve with finer or coarser meshes, as the case may be, and publicly proclaimed as pure gold, which had been neglected or overlooked, and cunningly appropriated (that's the word) by some base-minded compiler, without conscience, without principle.

The brilliant discoveries of the great anatomist took the world by surprise. Buffon, it is true, had, in some points of a higher philosophy, gone much beyond him, but the views of Cuvier, based on the most positive research, differed from those of Buffon, Pallas, Blumenbach, Goëthe, Autenrieth, and others: they were absolutely demonstrable, and admitted of no discussion. The zoological field was at once conceded to him, and his dicta became laws to the scientific world. A reaction was sure to happen; minds of a higher philosophic cast evidently existed even then in Germany; in Paris were Sevigny and Geoffroy St. Hilaire. The transcendental doctrine of analogies, of unity of the organization, had been distinctly and formally submitted to the world. Cuvier instinctively saw in what position these were likely to place some of his favourite theories—his anatomical method, the co-relations of structure, the extinction of genera and species, and the re-formation or re-creation of four or five new zoological worlds. The transcendental view he at times partially admitted, at others wholly rejected. This can be proved by his conversation and writings. He had also—and this was very natural—taken up the idea, that in the exact descriptive anatomy of the adult of all animals was to be found the key to the philosophy of zoology, and of consequence felt unwilling to admit, and determined to resist, the opinion fast gaining ground, that the descriptive in anatomy had done its part, and that in embryology and embryogenesis lay the philosophy of living beings. I witnessed the commencement of this struggle in 1821, on returning from Africa, and at the close of many years' labour in comparative anatomy, and was desirous of meeting the men to whom the world owed so much. With men so devoted to science as Cuvier, Geoffroy, and De Blainville, I found myself at once on the most friendly terms. Their respective positions at that moment could readily enough be seen. The pure anatomist of adult forms was at the summit of his fame. He had demonstrated the necessity of the anatomical method to zoological classification; that the mollusca and the annelides are very different animals; that if the lower animals be worth knowing at all, it is better to know them correctly. But all this would never have placed Cuvier on that immortal and elevated pedestal on which his statue now solidly stands; it was the value of the fossil episode, and the way in which he wrought it out, which rendered his name immortal; it was his method of paleontology—that method which led to the discovery of that science. To the skeletons and teeth of the fossil remains, till then misunderstood, he applied his consummate knowledge of the descriptive anatomy of the living. By comparing them, he showed that they belonged to different species and genera, and, lastly, to a distinctly different zoological world. To enable him to do so, he created a Museum of *Comparative Anatomy*, the value of which, in a paleontological sense, cannot be over estimated, and without which there can be no sound paleontology. But with this its value ceased. Can we wonder at his regretting this? Can we wonder at his feeling regret that the instrument by which he achieved such a reputation should be looked on as of comparatively little value now that the discovery was made? Can we feel surprise at his viewing this instrument—that is, the knowledge he had acquired empirically, and by incessant labour, of all existing combinations of structure, of all the known co-relations of the anatomical forms of living animals—as a philosophical instrument, a key by which he was to unlock and explain the combinations of antique forms? And thus, without being aware of it, he closely defined Nature's great scheme, declaring such and such forms and co-relations of forms to be possible, others impossible. Admit it, for the sake of argument—admit that to the human body neither painter nor naturalist can be permitted to join a horse's head, what does the argument practically amount to? Does it enable us to determine the exact zoological specific form of any extinct animal?—does it determine what the pterodactyle was?—or, to sum up, does it enable us to say, *à priori*, whether the anoplotherium was a ruminant, or merely a grass-eating, non-ruminating animal—a pachyderm, or "an overgrown, non-developed baby ruminant"? The only relation we can understand between cause and effect is invariable sequence. In anatomical co-relations there is no sequence, invariable or other; but there may be a *constant coincidence*, and to this we give the name of an anatomical co-relation. Now, by showing this co-relation to be *constant* and *invariable*, in as far as we know, and without ascribing to it the merit of a philosophical law, we may at least admit it as a safe deduction of great value in physiology, zoology, and paleontology; still it is no law, and can only be proved, not predicated, by a laborious inquiry into the whole range of living beings. Let those who accept of Cuvier's *constant co-relations* reflect on the incomprehensible structures of the pterodactyle, the dentition and stomach of the camel, the elephantine form of the forearm of the aquatic dugong; let him endeavour to trace a relation between the aquatic habits of the hippopotamus and its anatomical structures, the stomach of the lama, the giraffe, the deer, and the ox, and the anatomical characters of the horns of those which have them; the omnivorous teeth of certain bears with their carnivorous habits. Does the presence of marsupial bones *necessitate* the presence of a young-carrying pouch? In what structure of the African bustard do you find the absolute proof that it must be wholly an insectivorous bird? Prove the constancy of the co-relation, and I shall admit it as a law. Is this possible? It is not. The structure, the zoology of the fossil world is lost for ever; for it seems hopeless to imagine that we can ever re-discover them in the embryonic forms of those which live. That they exist in these forms I believe; but who shall decipher the fleeting metamorphoses of the young which, sudden as the flash of the aurora borealis, flit before the human sight? And may it not be that after all Goethe was right when he said the possible of all forms is included in every embryonic form, and the successive formations of living worlds (Cuvier's successive Creations) are but the development of those forms which living matter contained within itself from the beginning of time.

The doctrine of the co-relation of certain forms commenced when man first began to observe. The limited experience of the untutored observer sufficed to enable him to perceive that certain forms were seemingly incompatible: a tiger's head and horse's feet; an ox's head, mouth, and teeth, with the claws of the lion and panther. Common sense and common observation enabled him to go so far. It was Cuvier's aim to carry it much further, and to erect on the principle an *à priori* philosophy which the sciences of observation do not admit of. He failed, not because such co-relations do not exist, but because the seeming exceptions to them are too numerous; unfortunately also, as a method of paleontology, it was likewise sure to fail, because the extinct do not seem to have been formed on the same plan as regards detail and co-relation as those now existing. That most of them differed specifically from the living there cannot, I think, be a doubt, but in what way they differed may never be discovered. As a practical method leading to certain results it certainly failed, in proof of which I may merely refer to the history of paleontological research as regards the dinotherium.

CHAPTER III.

Whilst Cuvier still lived, facts began to appear which seemed to threaten the stability of his great doctrine. It was objected, first, that as a zoological method the simply anatomical one could not be depended on; that many living species, quite distinct from each other, could scarcely, if at all, be distinguished from each other by the teeth and skeleton alone, but which, when clothed with the soft parts, and their natural external characters, could be discriminated at once. Secondly, that many of the fossil remains differed from those now existing merely in respect of size or bulk, and that such distinctions could not be viewed as specific. Thirdly, that even genera, such as the mastodon, were affiliated with others by the intervention of numerous species, so indefinitely that they could not be viewed as distinct genera. The proofs of these views, subversive at least of a portion of Cuvier's paleontological method, were at length obtained and submitted to the scientific world by De Blainville. Others, as Humboldt, suggested that the dawn of the existing Fauna penetrated much further back, much deeper in the ancient world than had been imagined: or, to express it in less mystical language, the existing Fauna was of much greater antiquity or coeval with animals to which the paleontologist, backed by Cuvier, had assigned a vast antiquity and a character isolated from the succeeding Fauna. Lastly, De Blainville proposed, or rather returned to a certain extent to the views of Goethe, Geoffroy, and the Transcendental school, that there had been but one generation; that Nature disregards species; that these are the results of time and circumstances, not primitive, fixed, or eternal. In the meantime paleontology, based on Cuvier's method, but pushed to a length he had never contemplated, had been taken up by the German school—by men of heated imagination, who proposed to restore the antique zoology; to represent the external characters of the extinct races. I have seen some of their works, but I have never read them, and most likely never may. Works of a similar kind appeared in Britain, where the *method* was hotly taken up by amateurs, of whom the Reverend Dr. Buckland was the type. It is now confined, I think, to one class of anatomists and zoologists, who, for obvious reasons, must stand by it to the last. In the meantime, it must not be imagined that objections to Cuvierian views, as carried out in their full length in Germany and in England, have been made but lately; on the contrary, they were distinctly brought forward thirty years ago, when Cuvier was at the height of his reputation. Many European anatomists had pointed out that the co-relations of anatomical forms, to which Cuvier attached so much importance, were not constant and could not be depended on; that, even when constant, a knowledge of their existence was derived from direct observation, and that the method was therefore empirical and not philosophical; and that it was an absolute delusion on the part of Cuvier and his followers, to imagine that they had ever discovered anything by *à priori* reasoning.

In the "Fasciculus of the Osteographie" of De Blainville, which treats of the Dinotherium, will be found a candid exposition of the attempts made in accordance with "the method," to place the Dinotherium in the zoological scale. The errors committed are unaccountably ludicrous; and to these I need not more generally advert than by quoting the admission of M. Kaup himself, who made such efforts to discover the true history of the animal we still call Dinotherium. It was this: "that there is nothing in the world less infallible than certain theories, which at the sight of a fragment of bone pretend to reconstruct an animal on the instant" (p. 14). To which De Blainville, on his own part, adds, "that there is still less of certainty in the sports of the imagination, unhappily so much in use, by which people fancy that they can restore animals of which only some fragments are known" (p. 15). He thus sums up the history of the attempts, by "the method of Cuvier," to classify the Dinotherium—*si les physiologistes ne doivent, &c.*—"If physiologists ought never to forget the famous history of the tooth of gold, paleontologists ought always to have present in their thoughts that of the Dinotherium, which, from being placed with the genus Tapir—that is to say, provided with three sorts of teeth in both jaws, and with three and four hoofs on each foot, has become an animal having two kinds of teeth only, of which the inferior incisives, two in number, in the form of *defences*, were at first curved upwards, then downwards, which is true; then with toes terminated by enormous nails or claws, sharp and arched, making it a kind of sloth or pangolin, to which was ascribed a proboscis, and three claws or talons on each foot; and which since then has become an animal entirely aquatic, allied to the seals, probably then with swimming paws, perhaps then only anteriorly—thus making it approach the cetacea before being considered as a kind of gravigrade intermediate to the mastodon, the elephant, and the lamantin." This history proves equally the truth of what M. Kaup has said—"Qu'il n'y a rien au monde de moins infallible que certaines theories qui, sur la vue d'un fragment d'ossemens, prétendent reconstruire à l'instant tout l'animal; qu'il est permit de juger d'un animal par un de ses os," etc. (p. 17.)

To this singularly ludicrous history of an animal, of which the entire head and teeth were before the paleontologist, may be added, that an English paleontologist thought he saw in some fossil remains, transmitted to him from Australia, proofs that there once existed a Dinotherium Australe.

In 1830 I read to the Royal Society of Edinburgh two memoirs on the Dugong, and on some points in the anatomy of the Llama. In these memoirs, which were published by the Society, the following passages occur, which prove, I think, incontestably that at that time, and indeed long before (as early as 1820—that is, ten years prior), I had no faith in "the method," as applied either to the recent or extinct Fauna—except in so far as might be derived from empirical observation, and moreover did not believe in the method as a philosophical method in the sense assumed by Baron Cuvier and his followers—namely, that *there* exist certain necessary anatomical co-relations, which, once detected in one animal, furnish a law applicable to all. The first memoir is entitled, "Observations on the Structure of the Stomach of the Peruvian Llama, to which are prefixed Remarks on the Analogical Reasoning of Anatomists in the Determination *à priori* of Unknown Species and Unknown Structures" (vol. x). In that memoir I first corrected a singular error committed by Sir E. Home, who having dissected the stomach of the fœtus of a llama, concluded that the adult llama's stomach, which he had not seen, did not resemble that of the camel, to which, notwithstanding, it bears a strict resemblance.

"It is not now as with the anatomists of former times; inquiries so extensive as to determine the exact nature of almost every natural family of the animal kingdom, enable the anatomist to proceed to the dissection of an unknown animal with an extent of previous knowledge of which he is not himself at all times conscious.[*]

"In this complicated and extended inquiry, it has not unfrequently happened that the most experienced observers have forgot the sources of their knowledge, when they fancied themselves in possession of laws conclusive as to animal structure; laws regulating the presence or absence of organs, and sufficiently accurate and extended as to enable them to decide *à priori* on structure, or, to state the problem in the language of the mathematician, from a given part of the structure to describe the whole. To me it appears that the question of organization is not to be solved in this way. Let not the anatomist deceive himself and others. The high authority which would persuade us that from a small portion of bone they may determine the form, the anatomy, the natural history, the antiquity, of an unknown animal, I altogether disregard. To theorists of another kind, who venture to declare *à priori*, and without having any knowledge of the animal previously, its anatomy and its natural history, from the observance of a portion of the hide, a fragment of the bones of the foot, a portion of the skull, a tooth, I make this objection, that they cannot produce a single instance of their ever having done so in a way as not to admit of refutation or at least of doubt. The claws and nail-bones of the sloth indicate nothing of its peaceful and frugivorous habits, and to assimilate its habits and structure with certain gigantic fossil remains is eminently imaginative and fantastic. The molar teeth of bears are not carnivorous, and it is by the observation of the living species only that we have become aware of the frugivorous habits of some, and the strictly carnivorous habits of the polar species. To speculate from such facts as these on the anatomy of the extinct ursus spelæus must to every reflecting mind appear exceedingly ridiculous."

"We cannot *predict* that an animal will *necessarily* ruminate because we find its upper jaw unprovided with incisive teeth, nor is there any constant relation between these two circumstances. . . . . . .From the dentition of the horse no anatomist could decide *à priori* on the probable form of its stomach. . . . . .What anatomist would venture to decide *à priori* on the form of the stomach of the cetacea?"

These brief quotations will suffice to show that I never mistook the method by direct observation for any laws of co-relation or organic harmonies admitting of any *à priori* reasoning. I beg to call the reader's attention to the date of the above observations. The dissections on which they were based were made several years prior to their being read to the Society. Cuvier was then at the height of his reputation, and to this I may perhaps ascribe the singular enough circumstance that his brother, Mr. F. Cuvier, passed unnoticed in his work on the Cetacea both my papers on the Dugong and Cetacea, published long before his work appeared. I had presumed, and was indeed the first, to controvert the theory of his illustrious brother as to "the method of reconstructing the fossil animals, and the principles on which the reconstruction could and ought to be made;" and I had shown that the dugong did not belong to the Cetacea, the class to which the great anatomist had assigned it. Hence, no doubt, I owed the ignoring of anatomical labours, which had cost me many years of exertion and much expense, by Mr. F. Cuvier. These are littlenesses on which it is painful to dwell.[*]

My next memoir was "On the Dugong, and on Certain Points in the Anatomy of the Cetacea." Forgetting for an instant the anatomical method, and unacquainted with the true anatomy of the dugong, the illustrious Cuvier arranged it with the Cetacea, adding the term herbivorous. In that memoir, of which De Blainville made such frequent use, I proved, I think, satisfactorily that the dugong, viewed *anatomically*, had few or no relations with the cetacea; that in one remarkable feature (the increase of size of the ulna at the carpal end) it strongly resembled the elephant; that its internal structure bore no resemblance to that of the cetacea; and that, in brief, all the peculiarities observable in the latter animals were wanting in the dugong. Notwithstanding, Mr. F. Cuvier, affecting ignorance of these researches, arranged the dugong amongst the cetacea in his latest work. But the only point to which I wish to refer here, in quoting this memoir, is to show that, whilst by anatomy alone we can hope to determine the true nature of any animal, without meaning to deny the great value of the external characters in classification, the facts and the knowledge we derive from it are the results of direct observation drawn from the anatomical examination of animals which still live, whose habits are more or less known to us—also by direct observation, and that in no instance can it be shown that ever, as regards the existing Fauna, any *à priori* deductions can be, or ever were, made from inspection of a bone or two, or a tooth. Suppose, for example, we accept of the conjecture of Cuvier, in the place of a rigorous determination, that the dugong belongs to the cetacea; and let us further suppose that the species had been destroyed, by man or otherwise, and that nothing remained but the skeleton. On this supposition, M. Cuvier and his followers would have, by force of imaginations more or less brilliant, reconstructed the zoology, anatomy, and natural history of the animal. They would have ascribed to it a cushion of adipose substance in connexion with the integuments; dark-coloured muscles full of blood; no fat in any interior organ; lobulated kidneys; a complex stomach, subdivided into five or six compartments; a flattened heart; nostrils resembling blow-holes, with the cetacean apparatus placed over them; a larynx altogether peculiar; olfactory nerves either wholly wanting, or rudimentary, or fully developed; mammæ placed on either side of the vulva; a vascular plexus of vast extent surrounding the medulla spinalis, extending to the intercostal spaces and into the interior of the cranium;—in short, structures not one of which really exists in the dugong as found in nature. So much for the *à priori* method.

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[*] Transactions of the Royal Society of Edinburgh, 1830.

[*] The dissections of the Cetacea cost me many hundred pounds. Mr Hunter makes the same complaint.

These supposed co-relations and analogies in structure seem to me to have misled Cuvier whenever he attempted to speak of species he had not dissected. Thus he fancied that the complex apparatus existing exteriorly to the osseous nostrils of the porpoise and dolphin would be found in all the cetacea. Now nothing of the kind existed in those roquals I have dissected. Fortunately for science, the illustrious Cuvier himself really seldom trusted to "the method." He was too cautious. His mind, mathematical, mechanical, sceptical, and rigorously demonstrative, resisted his own theories when put in action. As a consequence, no scientific man ever committed fewer errors than the immortal author of the "Ossemens Fossiles."

CHAPTER IV.

The correctness of the view I have taken of the true nature and results of Cuvier's great discovery may, I think, be tested at once by an appeal to the history of two animals,—the one extinct, the other recent: the dinotherium and the dugong. If anatomical co-relations exist so as to admit of *à priori* reasoning, they can surely be applied with safety to these two animals. Of the fossil we have many important fragments, more especially the entire head and teeth: the other, the dugong, has been dissected, wholly or in part; skeletons of the animal exist more or less complete, and several crania. What has been the result? what the amount of materials which Cuvier and his followers are found to say were not necessary for the determination and restoration of these two animals, even on the supposition that both were extinct, and that a tooth or other fragment was in itself quite sufficient?

Whence arises the great importance which paleontologists attach to the number and authenticity of the materials from which they propose drawing conclusions as to the classification and zoological history of any animal, fossil or recent? It arises from this: that there are no laws of anatomical co-relation which can be altogether depended on. Did such exist, the scarcity of materials would be of little moment: a fragment or two would be enough,—a tooth, a jaw, a limb: on the contrary, no such fragments ever suffice. The importance which Cuvier attached to the collection of *authentic anatomical materials* ceased only with his life; and reflecting on the state of science in Britain and elsewhere, I cease to be surprised at the importance assigned by Cuvier to anatomical museums and to comparative descriptive anatomy. The concluding passage of the edition of 1825 of his works, the best, I believe, which he published, expresses fully and emphatically the ruling idea of his mind.* In my younger days, no authentic anatomical materials existed anywhere; no means of comparison; no hopes of applying with safety the method, either to zoology or paleontology. A young specimen of the class Lamartin was entrusted by Mr. Jameson, Professor of Natural History in Edinburgh, to be articulated by a mechanical assistant in the Natural History Museum, who, finding that the teeth had been lost by careless maceration, supplied them, out of his own fancy, with teeth of other animals, and with artificial teeth made by himself! In this scandalous condition I found the skeleton in the museum.† But if anatomical facts were thus rare and despised, it was not so with theories; these abounded. Amongst them were the successive creations of Cuvier and their appearance upon earth: this was an especial favourite. The wisdom, also, and the goodness of Providence in creating the carnivora to eat off the superabundant ruminants was a doctrine universally insisted on, although there happen to be no true carnivora in Australia, where Nature's balance is still pretty well maintained; all things were created *ad hoc*, the doctrine reaching its climax in the delectable theory of the Saxon or Scandinavian race,—"that Nature wills, and obviously points to, the extinction of the coloured portion of the human race."

It was by rigorously following out this method of Cuvier,—this method which consisted in the most exact critique into the authenticity and comparative value of the anatomical materials submitted to him,—that M. De Blainville, his successor, was enabled to compose his "Osteographie,"—a work which, for its extreme exactness, philosophical tendencies, and rigorous exclusion of all hypothesis, has scarcely ever been equalled. In this work De Blainville examines the osteography of the dugong in an admirably luminous manner and with many details; but many of these details are not required to show that the observers previously engaged in the inquiry belonged distinctly to two classes: first, of those perfectly competent to make the inquiry, but who had not the materials at their command (amongst those was the illustrious Cuvier himself); second, of those who were in possession of the materials, but were not competent. Nevertheless, as the materials, though incomplete, were ample, osteologically, the question naturally arises—How happened it that M.

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* Vol. vi., p. 396.

† See Transactions of the Royal Society of Edinburgh.

Cuvier arranged the dugong with the cetacea, if there really existed any anatomical co-relations from which *à priori* conclusions could be drawn? any laws of invariable and necessary sequence? The skeleton of the dugong was submitted to him not at the commencement of his great inquiries, but towards their close, when nearly every form of the fossil organic world had been discovered and described. But the truth is, that the almost geometrical laws of which he had boasted, but to which he never trusted, failed him, as usual, whenever a new form of life, whether recent or fossil, presented itself to him in a fragmentary or imperfect condition.

When Cuvier undertook the description of the dugong in the edition of the "Ossemens Fossiles" published in 1825, he had at his disposal the following materials:—1. The imperfect sketches of travellers. 2. A drawing of the head by Daubenton. 3. The more correct drawings and observations of Camper, which led to the knowledge that the animal was a marine biped, with two pectoral mammæ, that it lived on vegetable food, was fish-formed, and resembled the lamantin, "all which," M. Cuvier says, "might have been conjectured from the form of the head, if observers had been but bold enough." 4. Peron, a celebrated naturalist, I presume of the external-character class, brought home some of the dugong's large incisor teeth, and gave them to M. Cuvier as teeth of the hippopotamus! 5. An adult skeleton transmitted to him by MM. Diard and Duvaucel, with notes of the dissection of an adult specimen. 6. Some memoirs and drawings published in the "Transactions" of the Royal Society by Sir Stamford Raffles and Sir Everard Home, drawn up from a memoir transmitted to Sir Joseph Banks by Diard and Duvaucel, and from specimens brought home by Sir S. Raffles, and examined by Sir E. Home. These gentlemen, with the concurrence of the Council of the Society, suppressed the French naturalist's memoir, and published the facts in their own name. Thus we find that even in 1820 the tory war between the two countries had not altogether ceased, and that Frenchmen's scientific and literary labours were still held to be contraband, and liable to seizure and appropriation.

The materials at my disposal for the composition of my memoir on the Dugong, published in the "Transactions" of the Royal Society of Edinburgh, were—1. The treatise by M. Cuvier on the Ossemens Fossiles. 2. An adult skeleton, whose history I could not ascertain; it was in the possession of Mr. Jameson, who kindly allowed me to examine it, and have it articulated by my brother. 3. A head and portion of the neck of the dugong, covered with all its soft parts; also the heart, stomach, portions of the intestines, and organs of generation, preserved in spirits, and presented to the Royal Society of Edinburgh by Mr. Swinton. These I was allowed to dissect and prepare as I might think fit.

Lastly, in the course of his "Osteographie," M. de Blainville undertook the history of the dugong from the preceding information, and from that derived from other sources. His materials were—1. The materials I have already mentioned. 2. The dissection by Daubenton of the anatomy of the fœtus of a lamantin, which M. Cuvier had neglected, and which, by its accuracy, and the close affiliation to the new animal, was sufficient, in the opinion of M. de Blainville, to have placed the whole matter on a secure scientific basis. 3. The incomplete skeleton sent to the museum by Diard and Duvaucel, and from four to five crania, more or less complete, which existed in the museum in the time of M. Cuvier. 4. My memoir in the "Transactions" of the Royal Society of Edinburgh. Lastly, the skeleton of a young female, prepared under his own eyes. Of these two skeletons, the sex of one was unknown, the other was a female. Yet despite these ample materials here, we find the two first anatomists in the world—George Cuvier and Ducrotay de Blainville—contradicting and denying each other's statements nearly in every particular.

Let us suppose that of the dugong nothing had ever been found but the skeleton, without the jaws and teeth; M. Cuvier, trusting to his necessary co-relations, would, as in point of fact he did, notwithstanding the teeth, have placed the dugong amongst the cetacea. Now, where are the said *necessary co-relations of structure?* Brain, organs of sense, dentition, heart, circulation, organs of generation, kidneys, stomach, and intestines, cellular texture, tissue of the muscular fibre, all were proved by me to be absolutely different. Supposing the teeth and jaws only had been found, where are the laws to be found which connect such teeth and such jaws with an organization such as I have described? With materials nearly complete, zoologists have not yet been able to ascertain whether there be but one species of the dugong, or more. The incisive teeth, which Sir E. Home imagined to be deciduous incisors, I viewed as fully developed incisors, with peculiarities dependent either on sex or species. In this view as to the age of the incisive, M. de Blainville concurred (p. 70); but having access to a large series of crania, of several ages, he goes further, and denies to the dugong milk teeth altogether. I may be allowed to ascribe to the same cause—namely, the non-existence of anatomical co-relations intelligible to man, and capable of being reduced to laws—the fact which I owe to M. de Blainville's work, that a bone found in the valley of Wellington, in South Australia, was at first referred to the dugong,* and of which a distinct genus was made under the name of *Diptrodon*, but which was afterwards transferred by the same anatomist (Mr. Owen) to a kind of wombat or phascolome. The fossil bones found in America, which M. Harlan considered as belonging to a reptile, and called by him basilosaurus, were thereupon declared, by the same ingenious English comparative anatomist, to be a mammal! To this mammal he has given the name of *zeuglodon*. De Blainville views it as analogous to the lamantin. From these data, De Blainville showed that the *exterior of the dugong* did not resemble the cetacea. What I saw of the interior had, thirty years before, satisfied me that no animals were more distinct internally. Nevertheless, the dugong remains a cetacean to this day, where Cuvier placed it. Such is the force of habit, and such the power of a great name, for good or evil.

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* Expedition to the Interior of Australia, by Major Mitchell.

In the meantime, anyone educated in the exact sciences, is entitled, I think, to say to such inquiries, "You can have no fixed principles—no laws of invariable sequence or co-relation; the department of knowledge which permits such scope to the imagination cannot be a fixed science. Lay aside these fancies and imaginings, and proceed, as Cuvier did, by the method of direct observation. Give up constructing or reconstructing monsters which never existed but in your own imaginations. Bear in mind the distinction between true science, admitting of *à priori* reasoning, and the science of living forms. Record simply what you see, without pretending to dictate to Nature." This was Cuvier's plan of action; that plan by which he wrought out such magnificent results. Most of your biological axioms of the past century have been upset; your medical are nowhere. The human mind, unenlightened by science and reason, is, no doubt, ever expectant of, and ready to admit of the existence of monstrosities, moral and physical: a centaur, sphinx, a minotaur, a mermaid, a sea-serpent. No scientific pedantry is required to reject these forms; employ simply the common sense expressed in the Horatian lines. But recollecting that the discovery of the fossil world was not predicted, not foreseen by anatomists or zoologists, it were well to remain contented with the great claim of having discovered, through Cuvier, a new science, a new chronology of the earth, a new mode of demonstrating that the organic world, past and present, presents as yet no forms which reason cannot comprehend; that as yet all seem to be formed upon one great plan or scheme, of which the basis is unity. These, be it remembered, are vast discoveries in the direction of truth. Aristotle, it is true, had, about 3000 years ago, arrived nearly at the truth, but the world would not or could not follow him. Truth in science had, properly speaking, no existence on the earth for thousands of years; in many civilized countries, even now, it scarcely has a footing. This being the case, it were well for the cultivators of truth in zoology to avoid every chance of injuring its value to man by inventing false theories or putting forward pretensions which the really scientific are sure to refute, the scoffer to deride, and the vulgar, ever sceptical of physical truth, though prone to credulity in other matters, to treat with that scorn and hatred which they have ever shown to true science and to its cultivators.

Original Papers.

CONTRIBUTIONS TO THE PHYSIOLOGY, PATHOLOGY, AND TREATMENT OF SPERMATORRHŒA.

BY MARRIS WILSON, M.D.

PART I.

In bringing before the notice of the profession the subject of Spermatorrhœa, some curiosity and regret must be felt that, according to the sentiments hitherto expressed with respect to this disease, it has been generally thought necessary to commence with an apology. When so little was known of the pathology of the malady, this proceeding might have been perhaps excusable; but I now intend to adopt a different course, and, on the contrary, demand for my subject a consideration, which the acuteness of its symptoms and the importance of its results deserve. Were I to look for the causes which have kept our knowledge of this disease at so low an ebb, as up to the present time has undoubtedly been the case, I should find them probably in the obscurity of the physiological and pathological conditions in which the functions of the various organs of generation have been allowed to remain, and the difficulties in the way of research, that have left unexplained those phenomena which are known.

The absorbing question of the physiology of generation has naturally attracted more of consideration than the mere pathological condition of the organs whence that generation emanates, since in relation with that great function it bears only a kind of mechanical connexion.

Generation has been viewed usually as depending upon the fulfilment of certain functional attributes, of an apparatus composed of different parts, but entire and single in its action. On the contrary, a careful examination will teach us that the separate portions of this one great system have a distinct and independent functional capability, consentaneous, it is true, in a healthy state, but in one class of diseased conditions, exerting their specific actions independently and with abnormal activity, while in others they are more or less completely deprived both of functional and structural force. The truth of this statement is open to demonstration by a careful examination of the relations of the organs, such as Nature has displayed them by her evidences in comparative anatomy, as well as in the remarkable consequences which have been well known to result from particular diseases, and from some surgical operations.

I was led, indeed, in the first instance, to form this opinion from the effects produced on a patient who had submitted to the removal of both his testicles, for the purpose of eradicating the disease. As I have more particularly detailed this case in my work which I have recently laid before the profession, I shall only take a cursory glance of it, sufficient to elucidate my position.

Mr. A—— suffered early in life from spermatorrhœa, brought on by evil habits acquired at school. For remedying this, he placed himself successively under almost every system of treatment, reasonable and unreasonable, which was in any way brought under his notice, and, in the end, without deriving permanent benefit. Not until after a great struggle, however, he arrived at the conclusion, that the only chance of eradicating a disease which rendered life hateful to him, was by the removal of at least one half of the set of organs, which at that time was considered as the basis of the affection.

This bold treatment did not arrest the malady for any lengthened period, for as soon as the irritation occasioned by the operation, ceased, the emissions returned. Lallemand's plan of cauterization was then resorted to, but without avail; and as he had adopted the notion that removal of the testicle was the only prospect of radical relief, the second testicle was amputated at his particular request. For a few weeks only did this most heroic treatment succeed in its object, for at the end of that term the emissions reappeared, making the unexpected fact stand out clearly, that to the testicles alone was not to be attributed the disease for which he had sacrificed so much. The emisions did eventually disappear under a course of issues in the perinæum, applied with the purpose of removing over-action of the vesiculæ seminales. The phenomena attending these emissions, and other symptoms, after the removal of the first, then the second, and finally, the powerful counter-irritation which eventually resulted in cure, were so marked as fairly to warrant the conclusions I arrived at. Since that time, however, the correctness of my view has been fully confirmed by cases I have had under private treatment.

In seeking to establish the foundation of a classification upon the phenomena peculiar to each separate portion of the system, it will be convenient to take as a basis the changes effected in one of the most important functions of that system—namely, the emissions.

The seminal fluid, as ejected from the urethra, is compounded of the secretions of the different portions of the generative apparatus—that is to say, of the secretion of the testicles, of the vesiculæ seminales, of the prostate and Cowper's glands, and the urethra.

The term spermatorrhœa applies strictly to an excessive discharge of this compound fluid; but as this excess is usually attended at a later stage by the reaction of deficiency, and as that reaction is but one of the results of this same disease, I have found it necessary to include both the excessive and defective action under the same generic term.

With this intention, therefore, in the table of classification which I now submit, the term *spermatorrhœa sthenica* is intended to designate all those symptoms demonstrative of activity, or true spermatorrhœa, as implied in the etymology of the word, while *spermatorrhœa asthenica* marks all those evidences of an opposite character, known as one class of impotency, and resulting from diseased action as opposed to errors in structure and functional conformation.

SPERMATORRHŒA STHENICA.

[*Spermatorrhœa Entonica*—Mason Good.]

	Structure	Function.
Testes . . .	*Orchitis* . . .	Excessive secretion; relative deficiency of spermatozoa.
Vesiculæ Seminales	*Vesiculitis*	Excessive secretion; with inspissation.
Prostate Gland	*Prostatitis*	Excessive secretion; increased amount of salts.
Uretura. .	*Urethritis* . .	Excessive secretion of mucus.

SPERMATORRHŒA ASTHENICA.

[*Spermatorrhœa Atonica*—Mason Good.]

	Structure.	Function.
Testes . . .	*Atrophy* . . .	Impotence; watery secretion; absence of spermatozoa.
Vesiculæ Seminales	*Irritability*. .	Watery secretion.
Prostate Gland	*Chronic Irritation.*	Diminished secretion and salts; deposit of calculi.
Urethra .	*Ulceration* . .	Purulent discharge.

It seldom happens that morbid activity of the function of the testicles takes place without a corresponding excitement amongst the other portions of the apparatus. Not, so, however, with the other organs, for they seem to have less influence in causing a general activity in proportion to their remoteness from the testicles; in other words, the force of activity extends easier from the centre to the circumference, than in the opposite direction, though it rarely occurs that even the most remote organ is affected without some participation of the more central.

Spermatorrhœa is distinguished especially by emission—a symptom that is always necessarily present to constitute the asthenic form of the disease. In the asthenic stage this symptom gradually ceases, until eventually it entirely disappears.

The character which particularly marks emissions containing true seminal fluid, and furnishes the most complete evidence of the involvement of the structure of the testicles in disease, is the presence of spermatozoa. The number of these little beings, however, varies considerably, and though I believe they are reproduced very rapidly in a healthy condition of the testicles, still the large amount of seminal fluid secreted, and its frequent ejection, renders the presence of the animalcules, as a test of the actual quantity of testicular secretion, somewhat doubtful. This, however, applies only when the disease has exhibited great activity. Such is the condition I have named *spermatorrhœa sthenica testiculæ*. The symptoms accompanying this state are swelling of the testicles, pain on moderate pressure, with a sense of weight extending along the course of the spermatic chord, attended frequently with aching in the loins. The symptoms approach very closely to those known as the ordinary symptoms of inflammation of the testicle, or *orchitis*, in a subacute form. The force of inflammatory action seldom rises to the point of causing resolution of substance and purulent deposition, but becomes expended upon the function rather than the structure of the testicle, and thus a largely increased amount of seminal secretion follows as the natural consequence of the great disturbance of the organ.

In a normal condition, the peculiar function of the generative organs requires a greater intensity of nervous influence than is usually directed to the functions of the general system, and consumes the powers of vitality in a proportionate degree. Considering, therefore, the abnormal and over-excited condition of these organs in a state of disease, the fearful results to the muscular and vital forces, which after a time follow these attacks, become no longer matter of wonder. At the same time, it must be admitted as surprising that in the earlier phases of the disease, when it occurs in young and healthy patients, so much of this vital exhaustion may be borne without producing any very material injury to the constitution.

When conditions of excitement of the testicle exist, such as would occur under these circumstances, it usually happens that the emissions are attended with erection and with sensations more or less acute. While, therefore, these phenomena accompany the disorder, they may be taken in general as a guide that neither the structure nor function of the testicle is injured to an extent involving risks in virility. It may also be fairly calculated that on subduing and removing the excitement, the organs will be found in a state capable of being restored to their original condition of health.

The *causes* whence spermatorrhœa may arise are numerous; they may consist of certain pathological conditions occurring in the testicles themselves; they may be the mere consequences of inflammatory action in the neighbouring parts, communicated along their continuous mucous membrane; or they may depend upon direct external injuries. In fact, the causes of this disease may be taken as depending on any circumstance sufficiently exciting to establish in the generative system a permanent inflammatory action more or less acute.

Simple occasional emissions often result from mental impressions, depending on states of over nervous excitement, but these alone are not to be classed as spermatorrhœa; they are neither permanent nor important in relation with the general health, having, indeed, rather an influence in relieving any irregular oppression of the system. If, however, they should be frequently repeated, the groundwork of that disease would assuredly be laid. Many causes of the disease are so evident as to enable us to form a clear judgment as to the mode of treatment, on even a cursory examination. Amongst these may be classed blows, cold, local congestion, and direct nervous irritation; and, above all in point of importance, the practice of masturbation. On the other hand, some of the causes of the malady are extremely obscure, and require much consideration to arrive at a just conclusion.

The *treatment* naturally depends very much upon the cause of the attack, and must be varied to meet the circumstances. The plan to be pursued in the particular form of the spermatorrhœa I am now considering, or rather the principle to be kept chiefly in view when the symptoms of testicular derangement predominate, is obvious enough,—namely, the reduction of excited action locally by removing the cause as much as possible, and generally by adopting a course tending to the same end.

The first object may be accomplished by the local abstraction of blood by the application of leeches, and by cold variously applied, as in the form of spirit, lead, and saline lotions, ice, and cold water bathing. The second by bleeding from the arm, by aperient medicines, and by diminishing both the quantity and quality of the nourishment. The administration of medicines, for the purpose of exerting a special influence over the particular organs affected, must also not be lost sight of, since the restoration of their functions influences in a very material degree a return to health. The remedies which I have found most serviceable in effecting the object in this form of the disease are, tartar emetic, and the non-stimulating sedatives; but the applicability of particular treatment must naturally depend upon the complications which may be actually existing.

Asthenic spermatorrhœa depending on disease of the testicle is the exact converse of all this, in its pathological conditions. It is, in fact, that state which results from the exhaustion of vital power, consequent on the excessive action attending the sthenic condition. The effects of the cessation of excitement to the testicles are a destruction of functional power, and, at the same time, loss of substance. The seminal fluid first begins to alter in its character, becoming thin and watery, the quantity lessens, and spermatozoa, which are the distinguishing characteristics of healthy semen, are no longer reproduced. The testicles diminish in size, on account of the absorption of their structure, and on examination will be found flaccid and shrivelled. The cremaster muscle, which, from its capability of contracting and relaxing, evidently fills a very important office in the healthy condition of the testicle, loses altogether its contractility, to which circumstance is due a very distressing symptom, namely, a sensation of weight and dragging pain in the loins. The veins also lose their tone, and become swollen and tortuous, presenting that condition known as varicocele. Though these phenomena usually take place by gradual steps, the constitution does not readily submit to the destruction of one of its most important systems without making continual efforts for its restoration. These efforts, however, become one of the chief elements in the exhaustion of the nervous system, and in the production of a set of symptoms showing the highest degree of irritability, and cause the most injurious results to the health of the patient. Impotence follows as a natural consequence of this state of the organs, and is accompanied with complete disarrangement of all the other functions of the body.

The principle of *treatment* of asthenic spermatorrhœa consists in restoring the tone of the general system, and in exciting and sustaining, as far as possible, the known actions of the affected parts. These, however, are not the only circumstances to be attended to in relation with defective power of the organs. In the earlier stages, the seminal tubes will have taken on a condition of passive irritability—much more to be dreaded even than the inflammatory action of the sthenic forms of the disease, since it yields much less easily to treatment, and, in the weakened state of the system, wastes the power of life with greater rapidity. The medicines most serviceable under such circumstances are tonics, especially quinine and gentian, combined with the mineral acids; the preparations of iron are sometimes very useful. For the special treatment I usually employ camphor, ergot of rye, and lupuline. The third indication is to be combated by local applications, as camphor lotion and warm fomentations; and, as is often the case if the irritability be accompanied with pain, much relief may be obtained from poultices containing poppy-heads, henbane leaves, hops, &c. Proper attention must, of course, be paid at the same time to the complications arising from the involvement of other portions of the generative system.

PART II.

The second form of Spermatorrhœa which engages attention, and impresses the necessity and importance of its careful consideration, is that demonstrating itself by certain phenomena especially affecting the vesiculæ seminales. These phenomena in the active stage develope in the structure of the vesiculæ an excitement amounting to inflammation, which I have found convenient to name *vesiculitis;* while the functional derangement is attended by excessive secretion of its characteristic mucus. This excess, although subjected to considerable condensation and inspissation, from a highly stimulated activity amongst the neighbouring absorbents, proportionate to the amount of irritation occasioned, is, on account of the accumulating bulk of the secretion, necessarily frequently ejected. This set of symptoms constitutes *Spermatorrhœa Sthenica Vesiculæ.* Before entering upon the pathological conditions of the organs and their results, a little attention devoted to the anatomy and physiology of the parts may prove of service in enabling us rightly to comprehend the malady itself.

The vesiculæ seminales are two lobular cellulated sacs, situated at the under part of the bladder, between it and the rectum, in such a position that they are liable to be pressed upon by these organs, and the levatores ani muscles, under certain circumstances. Their walls are thin and tense, composed principally of a fibrous, elastic membrane, endowed with such an amount of contractility, as almost to warrant the belief in its muscularity. This is covered externally by loose cellular tissue, while its internal surface is lined with a mucous membrane, much extended by numerous folds, and having great capability for secretion. The cavity of each vesicula is separated into several distinct saccules, occasioned by the convolutions of a single tube, from which several cæcal branches are given off, its reduplications being held together by firm fibrous bands, in such a manner as to place at very acute angles the direction of the axes of these separate divisions of the cavity. Arteries, veins, and nerves are freely supplied to these organs, and there is also a particularly large distribution of absorbent vessels over their surface. The shape of each vesicula is pyriform, its apex being directed towards the prostate gland, and it lessens in diameter as it extends forward, until its constricted neck assumes the form of a short tubular duct. The vas deferens, sensibly expanding as it arrives towards its termination, passes down the inner side in close connexion with each vesicula, until the portion of the walls in contact, gradually thinning, finally ceases, and the combined tubes passing forward, form the ejaculatory duct. After a course of about three-quarters of an inch beneath the isthmus of the prostate gland, this duct opens by a narrow orifice upon the mucous membrane of the urethra, in front of the verumontanum.

In commencing the physiological inquiry, I shall select a quotation from Richerand's Physiology, which will serve as a type of the opinions then and since generally held, with respect to the uses of the vesiculæ seminales. It will be only necessary to declare at starting, that with those opinions mine essentially differ, to create on my part a sufficient reason for entering upon a discussion of the question.

Richerand says: "The spermatic fluid passes from the vasa deferentia into the vesiculæ seminales, notwithstanding the retrograde direction of their course, because the duct along which it is conveyed, penetrating through the prostate gland, and opening into the urethra by a very narrow orifice, the semen flows back more readily into the vesiculæ seminales than from the vas deferens into the ejaculatory duct."

For the correctness of such a statement, it would be first necessary to grant that there is a large amount of power expended upon the progression of the testicular fluid; but it must be remembered, that this progression has to be accomplished for a large portion of its distance against gravity, even before it arrives at the point where the greatest force is requisite in accomplishing a retrograde movement.

Neither physiology nor physics will carry out this view. The advance of the testicular fluid is due to an action altogether different. The vas-deferens is a tube possessing thick and inelastic parietes, the internal opening being very minute, and of considerable length. In a tube of this kind, capillary attraction has great influence, and this, combined with the syphon-like direction of the canal, will sufficiently explain the onward movement of its contents. In relation, therefore, with the vesiculæ seminales, the action would rather be one of attraction than of propulsion towards them. The vasa deferentia, however, expand towards their terminations, and thus relieve pressure at the very point where the greatest force should be exerted in occasioning a retrograde movement.

The next cause of opposition to the reflux of testicular mucus into the vesiculæ would arise from the nature of the diaphragmic wall, interposed between the duct of the vesiculæ and the vas deferens, by which a valve, and one by no means uncommon in the animal economy, would be applied to the entrance of the vesiculæ in such a manner as to cause a complete and positive impediment.

All the separate parts of the generative system are under the same influence of a nearly continuous secretion; and thus the natural action by which the testicular secretion would arrive at an excess, would also occasion the same degree of excess in the vesiculæ. It is perfectly true that, under certain circumstances, spermatozoa have been found in the vesiculæ seminales; but their presence admits of easy explanation without resorting to the supposition that from this fact alone they become a sufficient indication that those organs are the usual receptacles of the testicular fluid. In a state of health, the contractile covering spread around the narrow neck of the vesculæ seminales serves as a sphincter, to prevent the escape of mucus at improper times, and also as a means of impeding the entrance of matters collected in the ejaculatory duct. Applying this fact therefore to the imagined use of these organs —simply as reservoirs for the excess of seminal fluid—we see at a glance that their anatomical structure opposes the proposition. On the other hand, states of great atony of the parts may occur, in which this contractility is lost to such a degree that the slightest pressure would be sufficient to overcome the valvular impediment, and spermatozoa thus passively gain an entrance into the vesiculæ. Extreme local atony of this amount seldom occurs in any but the most advanced cases, and probably waits only upon that condition of disease where diurnal pollutions have existed for some time. The only other means by which spermatozoa may gain entrance into the vesiculæ, occurs when there happens to be some actual preponderance of activity in the testicles, attended by atony of the other organs; then it is possible for testicular fluid, collected in the ejaculatory duct, to overcome the resistance of the valve, and force its way into the vesiculæ. Both these cases, however, are so rare, and the difficulties to be overcome so great, that it is matter of much doubt if they ever take place during life; and it is probable that the fact of a few stray spermatozoa being found in the vesiculæ after death depends entirely upon exosmosis of their contents, and the entrance of matters contained in the ejaculatory ducts to supply their place.

The extension of the numerous folds of mucous membrane gives a large surface for secretion, and is of itself an indication of the uses of the vesiculæ seminales. Unless some provision were made for relieving the excess of secretion which might happen in states of undue activity of this membrane, it would follow as a necessary consequence that an overflowing or oozing away of the fluid would take place whenever the organs became surcharged. This inconvenient excess is relieved by a very interesting phenomenon, common to this and several other parts of animal bodies. The thinness of the parietes, and the large distribution of absorbents, promotes an exosmosis of the more fluid portion, and a considerable inspissation results. The advantage gained by this inspissation is the equivalent of a much increased capacity of the organs. When, nevertheless, excessive accumulation has taken place, and the organs are not induced to relieve themselves by excited function, emission happens from pressure as a natural consequence of their position. This fact demands a little consideration, since it is quite evident that the pressure to which they are almost constantly liable would, unless some natural precaution were taken to prevent it, cause emission to follow after every excitement, or even natural action of the bladder, rectum, or levatores ani muscles, and thus constitute it the rule instead of the exception. Now, the influence of this pressure is prevented from causing a direct impulse upon the openings of the vesiculæ, by the alteration in the direction of the axes of the saccules occasioned by the convolutions of the tube, and thus by this admirable natural provision, too frequent emission is avoided. Emissions following as the consequences of irritation of the nervous system depend on something more specific than this merely passive mechanical action. They are caused by the contractions of the muscular coat of the vesiculæ themselves under the generative excitement.

The seminal fluid contains the secretion of the testicles and vesiculæ in very different proportions. The amount of that derived from the testicles is small, and such a result we should expect on considering the different size of the respective apparatus. Their relation with the physiology of generation probably bears an inverse proportion. The actual fecundating fluid accomplishes its purpose by intensity; the vesicular mucus, by its bulk. It is indeed the vehicle by means of which the fecundating quality arrives at its destination. The elaboration of a large quantity of so highly vitalized a secretion would have demanded too much of nervous energy, nor was it necessary to do so when a very minute portion was sufficient to effect the purpose required; but it was necessary to extend its influence as much as possible, to avoid the risk of failure. This, therefore, has been attained by the larger secretion in the capacious seminal vesicles, of a mucus possessing the requisite quality, that of enabling the fertilizing fluid to be sufficiently disseminated.

The specific character of testicular secretion is the presence of spermatozoa; that of vesicular mucus, its inspissated masses. These latter, I believe, accomplish a most important point in the physiology of impregnation. That the spermatozoa effect some necessary purpose in the act of fecundation, is implied by their presence in the testicles and their introduction into the uterus, and that this purpose is more efficiently gained by their vital preservation, may be inferred. The duty which it appears to me these inspissated masses of the vesicular mucus have to perform, is to preserve within the uterus a condition favourable to the continued existence of the spermatozoa by their gradual dissolution. The secretion of the vesiculæ seminales is transparent and mucilaginous, containing the inspissated bodies mentioned above. These appear to be merely the simple secretion of the mucous membrane in a concentrated state, and they have assumed the ovoid shape in the saccules of the organ in which they have been formed. Their specific gravity is below that of the general bulk of the fluid in which they are contained. When the semen is allowed to stand exposed to the air for a short time, the ovoid bodies gradually dissolve, uniting with the general mass, the whole becoming a mucilaginous and homogeneous fluid.

I have attached much importance to the pathological conditions of the vesiculæ seminales, because they must be considered as the principal and central point, around which the diseases of the other generative organs are grouped. Maladies attacking the vesiculæ assume a very different character from those affecting the testicles. They are unattended by direct and immediate evidences of injury to the nervous system; but at the same time, should their morbid actions not be quickly relieved, they assume a remarkable obstinacy and resistance to treatment. Irritable action of the testicles terminates early in an incurable atony; with the vesiculæ this termination is much longer in being produced, seldom finishing with impotency, and even then capable of being restored to a healthy condition with an amount almost of certainty.

The distinctive symptom which attends *Spermatorrhœa Sthenica Vesiculæ*, and is usually first observed, consists of a dull aching in the perinæum, more or less acute, which is sensibly increased by coïtus. This often amounts to a sense of acute pain at the moment of ejaculation. The vicinity of the bladder and rectum occasions, in both these organs, the evidences of irritation, without actually extending to them any diseased conditions, and from this circumstance it often happens that tenesmus and dysuria may be taken as indications of morbid activity in the vesiculæ. The symptoms are accompanied by an increased amount of secretion, causing frequent emissions, the latter being usually unattended by erection. In the later stages of this form of spermatorrhœa, the emissions appear to be more particularly occasioned by pressure, and it is then that they follow after riding, sitting, and evacuation of the bowels. Indeed, it is to the later stages of this, and the earlier ones of the next disease, that those involuntary emissions, occurring at all times without erection, and which have received the name of *pollutiones diurnæ*, must be particularly referred.

The treatment of this disease consists in relieving the system generally, by diminishing as much as possible the inflammatory tendency, and by local counter-irritation. The means most serviceable in local treatment are—the hip-bath, cold or hot, according to circumstances, the duration of the use of which must also be regulated by its effects. Emollient and sedative lavements and suppositories in the rectum are useful when there is much pain. Blisters to the perinæum, occasionally repeated, are also of great service, and in extreme cases I have resorted to issues with success. Beyond general internal treatment, sedatives may be employed, amongst which opium, hyoscyamus, and lupuline are the most serviceable; and when a local or general inflammatory tendency runs high, tartar emetic may be added with great advantage.

Spermatorrhœa Asthenica Vesiculæ is that condition into which the vesiculæ subside after the active symptoms of inflammation have disappeared. This stage is marked by great irritability, lessening only in proportion as the affected parts descend in the scale of activity to complete asthenia. The quantity of the secretion also diminishes, until there remains only a slight but continuous oozing of the vesicular mucus. Intimate as is the functional relation between these organs and the testicles, yet in the disease now mentioned, impotency arises, not from actual deterioration of the fecundating fluid, but from deficiency of vesicular secretion.

The principal injury resulting to the constitution from this disease, is occasioned by the debility and exhaustion succeeding to the continuous efforts requisite for restoring the lost secretion. It may well be imagined that a morbid condition of this kind could not exist long without destroying, not only the functional and structural capability of the parts themselves, but also at the same time undermining the power of the constitution. Fortunately these extreme conditions are rare.

The method of treatment will consist in the restoration of the system by a full diet and tonics, exciting it, if possible, into the inflammatory stages of the former disease, when it will become amenable to the plan already pointed out for the treatment of its active conditions.

PART III.

Pursuing the plan I have adopted in classifying the different forms of spermatorrhœa, as depending upon their special seats of excitement, I now enter upon a consideration of the prostate gland. The phenomena of disease affecting it are peculiar, depending very much upon the structural and functional importance which it bears in relation with the other organs. Structural excitement arising from spermatorrhœa seldom presents itself in a very acute form, but is apt to terminate in resolution of portions of the gland, and, in very aggravated cases, in abscess of the whole organ. Functional irritation occasions in the acute stage of spermatorrhœa a larger amount than usual of the prostatic secretion to be poured out, causing thereby great excitement of the urethra and the surrounding parts. In approaching the asthenic condition of the disease, the power of secretion and extrusion is so lost, that the earthy constituents are deposited in the ducts and sacculated tubules of the gland, in the form of calculi; while in the completely asthenic state, the structure of the gland itself almost entirely disappears. The application of the term "spermatorrhœa" does not appear quite so evident in this form of disease as in the affections of the organs I have previously described; but the use of the term will be perfectly justified, if we remember that the secretion of this organ forms part of the seminal fluid, being a highly necessary adjunct thereto, and the excessive loss of which entails those effects understood as the consequences of spermatorrhœa.

A short description of the anatomy of the prostate gland will not be out of place. Shaped like a Spanish chestnut, it is placed at the anterior part of the bladder, with its apex turned forward. It encloses in its upper third about an inch of the urethra at its commencement; the under part is traversed by the ejaculatory ducts. The prostatic portion of the urethra admits of considerable distension. The two lateral lobes of the prostate are united by the middle lobe, which connects them at their base, and is so disposed as to offer an impediment to the recession of the seminal fluid into the bladder. The bulk of the gland is composed of compressed ramified ducts, the secretion from which is poured into the urethra by the sides of the veru montanum from fifteen or twenty excretory tubes. This gland progresses in its development in a like proportion with the other organs of generation, indicating by this circumstance a purpose bearing special reference to that phenomenon. Unlike the more special organs, however, when the generative force ceases in old age, the misdirected activity of the prostate is apt to occasion several forms of troublesome disease.

I shall now subject the prostate gland to the physiological question by which the purpose of the other organs has been tested, and we shall arrive at something like an estimate of the want of knowledge existing with respect to it. What is the use of the prostate gland? Richerand says: "The mucous and whitish fluid secreted by the prostate gland mingles with the semen, adds to its quantity, and is perhaps emitted first, in order to lubricate the internal surface of the canal, and prepare it for the passage of the seminal fluid, by rendering the internal surface of the urethra more slippery." In March, 1855, Dr. Carpenter says: "Of the nature of this secretion scarcely anything is known; and it can be only surmised that the use, like that of the fluid of the vesiculæ seminales, is to dilute the seminal fluid, and to give it such an increase of bulk that it may be more effectually conveyed within the female passages" (*Principles of Human Physiology*, fifth edition). In August, 1856, Dr. Carpenter, in the third edition of the "Manual of Physiology," echoes the same opinion, by observing: "The fluids of the vesiculæ seminales and of the prostate gland (which seem to serve for the dilution of the semen), &c." This, then, is the extent of what was known with respect to the purpose of the secretion of the prostate gland. In the commencement of the present year I published a small work "On the Diseases of the Vesiculæ Seminales," in which I expressed an opinion that a very different purpose may be assigned to this secretion. Subsequent observation has confirmed me in the belief of the consonance of that opinion with fact and with the principles of physiology.

The specific character of the prostatic secretion is its milky appearance, and a mucous tenacity somewhat less than that of the vesiculæ seminales. The milky appearance depends upon a very large proportion of phosphate of lime suspended in it mechanically. I have explained the necessity for preserving the vitality of the spermatozoa in effecting the accomplishment of fecundation; and it is upon the retention of a due amount of phosphate of lime in suspension that the immediate and continued preservation of that vitality mainly depends, under certain opposing circumstances, which are liable to frequent recurrence. The vitality of the spermatozoa is easily destroyed, and conditions of the secretions of the mucous passages in which they cannot exist are by no means merely accidental, but are natural states of the lining membranes, and exist in connexion with a perfectly healthy functional action. Thus certain states of acidity and alkalinity are peculiar to the different passages through which the testicular secretion has to pass in its progress to the ovum. Both these conditions, though perfectly normal, are alike destructive to the vitality of the spermatozoa, and therefore to the accomplishment of impregnation. From various causes, the mucus of the urethra has sometimes an acid, sometimes an alkaline, reagency. The mucus of the vagina is normally acid; that of the uterus, alkaline. And yet through both of these destructive conditions the spermatozoa must progress unharmed, to enable them to complete their purpose successfully. Nature, however, has not left their preservation to chance, but has appointed the prostate gland to furnish forth this safeguard, in the peculiarity of its secretion, containing as it does a neutral phosphate of lime, by which any undue excess in either of the conditions mentioned may be counteracted.

Vauquelin made an analysis of the semen as ejected from the urethra, and in that state found it to be composed of water, 90 parts; mucus, 6; phosphate of lime, 3; soda, 1 — 100. This, though probably only an approximation to the exact amount of the relative proportions of its different ingredients, yet sufficiently indicates the abundance of neutral earthy phosphate. If the secretion of the phosphate alone had been examined, the proportions of the earthy phosphate would have been found much greater, and from a yet uncompleted analysis of my own, I have reason to infer there exists nearly three times that amount. The situation of the openings of the prostatic ducts, and their large numbers, aid in a great degree the view I have taken with regard to the office of the gland. Their being placed anterior to the openings of the ejaculatory ducts, shadows out an intention of preparing a way for the passage of the secretion contained within those vessels; and the same purpose seems indicated by the extended surface over which the prostatic fluid is spread, on account of the numerous openings whence it is supplied. From certain observations that have occurred to me in the course of practice, I am fully convinced that the mucous membrane of the urethra becomes freely bedewed with the secretion of the prostate gland some short time before the passage of the special secretion—a circumstance following almost as a natural consequence of the nearness of the secreting surface to the point of exit. When sufficient nervous stimulus is directed to the generative system, secretion proceeds very rapidly in each separate portion of the apparatus, and is followed by an almost immediate pouring out of the prostatic secretion into the urethra, and somewhat later by the ejaculation of the contents of the testes and vesiculæ seminales.

The pathological conditions of the prostate gland do not approach so closely to the symptoms of spermatorrhœa as those of the two organs previously described; nevertheless, the phenomena they exhibit, fairly warrant the classification I have advanced. It not only becomes the seat of active and exhausting disease of a character distinguishing spermatorrhœa arising either from extraneous or inherent causes; but it moreover excites in the neighbouring organs the specific symptoms constituting that disease.

These phenomena are divisible, like similar conditions of the other organs, into active and passive. The characteristic of *spermatorrhœa sthenica prostatæa*, is an excessive discharge of a creamy fluid, containing a much larger proportion than usual of phosphate of lime and other salts, and accompanied with the symptoms of active inflammation. The diagnosis of this affection is not difficult, but requires a careful attention, not exactly because there is any uncertainty as to the evidence of the disease, but because they so closely resemble the symptoms of disease arising from very different causes. It is not my intention to enter upon any consideration of unhealthy conditions of the prostate, apart from the spermatorrhœa, further than to observe, that irritable states of the organ, arising from that malady, frequently become the exciting cause of other independent diseases, more especially when under the influence of structural excitement. An attack of prostatic spermatorrhœa is attended with pain in the urethra and perinæum. There is much irritation both of the bladder and rectum, accompanied with a frequent desire to evacuate those organs; but, in both instances, a sensation remains as if the act had not been entirely accomplished. Pain, more or less acute, occurs in passing the urine, and a dull aching extends to the loins. The inflammatory action occasions so great an amount of irritation in the neighbouring mucous membrane of the urethra, that it is almost always complicated by spasmodic stricture, for which frequent introduction of the catheter becomes necessary. The discharge which accompanies this state is of a milky appearance, with the consistence of cream. It bears a close resemblance to the mucu-purulent discharge of gonorrhœa; but it may be distinguished by certain chemical reagents. Acute symptoms seldom occur without involving a disarrangement of other portions of the generative system; and, on this account, the discharge is usually mixed with a proportion of the secretion of the testicles and vesiculæ seminales, though the excitement which prevails in those organs is evidently subsidiary to the prostatic disease.

When, as sometimes happens, inflammation runs very high, abscess of the prostate is liable to occur, and from that cause sudden gushes of purulent mucus may take place; but not only is the discharge then distinguished by its intermitting character, and greenish-yellow appearance, but also by the streaks of blood which appear in it, sometimes accompanied by considerable hæmorrhage.

As the form of *spermatorrhœa asthenica prostatæa* sets in, active symptoms gradually disappear, chronic enlargement of the gland takes place, attended by serious discomfort about the bladder and rectum, and offering considerable impediment to the free passage of the urine. During this enlargement, the structure of the organ becomes compressed and consolidated, and a remarkable change takes place in the character of the secretion. The more fluid portion passes off with the soluble salts by the urethra, while the phosphate of lime is retained within the ducts, gradually filling them up, and forming calculi. Part of this effect is due to atony of the tubes themselves, part to structural compression, rendering the tubes too constricted for the passage of the granular phosphate. This condition causes the organ to become exceedingly irritable, and the calculi acting as foreign bodies are dislodged more or less perfectly by separate small abscesses. In the former instance they pass away by the urethra, often occasioning much pain, and frequently becoming imbedded in the folds of the urethral mucous membrane. Sometimes they are detained at the prostatic openings, where they may be distinctly felt on the passage of a sound. With symptoms such as these, it need scarcely be remarked that, even if the generative act could be accomplished, impregnation must necessarily be impossible.

The system of *treatment* to be pursued in this disease, must of course very much depend upon the peculiar symptoms that may happen to be predominant; but the two great principles of diminishing excitement, and increasing tone, demand as careful a pursuance in relation with this, as with the other portions of the generative apparatus. The accomplishment of those two great principles, however, must be attained chiefly by a local method. During the active stage a strictly antiphlogistic plan of diet, with general bleeding and tartar emetic, are necessary, and must not be relaxed until inflammation is subdued, and with this also may be combined calomel and opium. The local treatment consists of cupping, leeches, and blisters in the perinæum. When the disease is attended with considerable pain, anodyne suppositories often give great relief. Opiate injections into the urethra are also serviceable. When evidences of abscess make their appearance, fomentations of hot water, either plain or medicated, followed by poultices of linseed-meal or bran, should be employed. The bladder should be emptied by means of the catheter, for though this operation may be highly painful for a short time, it is preferable to allowing efforts at passing urine, which are sometimes unsuccessful, and generally followed by much irritation.

In the later and asthenic stages, little can be done beyond supporting the system, and removing, when practicable, impacted calculi. When it can be distinctly ascertained that irritation is kept up by the impaction of a calculus in the mucous membrane, or from the protrusion of calculous matter from the patent orifices of the prostatic tubuli, a plan of treatment may be adopted, by means of which those substances can be removed, or their irritating capabilities subdued by chemical means. The application of a weak solution of acetic acid to the surface of the calculi will frequently dissolve them, and, by penetrating their substance, in some instances render them so friable as to admit of the tubuli relieving themselves by extruding their contents.

The general indications of treatment are, to preserve the tone of the system, reduce excited inflammation, and remove as much as possible the causes of local irritation; but the efficiency of any specific treatment is very doubtful.

Upper Charlotte-Street, Fitzroy-square, Oct. 1856.

PRACTICAL ILLUSTRATIONS OF SOME OF THE DISEASES OF INFANCY AND CHILDHOOD.

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No. I.

Case of Bronchial Phthisis in a Child, with some Remarks on the Diagnosis and Prognosis of that Affection.

The difficulties which present themselves in the way of a correct and definite diagnosis of the diseases of infancy and childhood have not been overrated. Morbid processes are at this period of life quickly originated, owing to that extreme tenderness and susceptibility which then exists. In infancy and childhood, the tenure of life is, even in those who are outwardly placed in the most favourable circumstance, uncertain compared with that at a later period; hereditary "weakness" or morbid tendency of some kind has been in many cases transmitted, and its effects have now to be surmounted or succumbed to, as the case may be. The symptoms presenting themselves in a particular case are often in nowise directly and apparently connected with the condition which has given rise to them; the hidden undercurrent may for a considerable period be completely masked, giving nevertheless a colouring to the whole character of the symptoms, and it is only when the diathetic influence is detected and recognised that the encounter between the physician and the disease is carried on at all on equal terms. What different conditions of system, e.g. may an eczematous eruption of the skin or a diarrhœa, afford indications of, and yet until these conditions are properly recognised and a due importance assigned to them, with what confidence can any particular line of treatment be contemplated? It is true that "symptoms" may be treated with advantage, and it is unfortunately true also that in many cases this is all that medicine can do; but this is not going to the root of the evil. The "morbid tendency," the "diathetic condition," which evinces itself in the disorder before us, must be combated.

The truth and importance of these considerations are, as the science of pathology advances, becoming daily more and more evident. In treating the diseases of childhood and infancy, it is especially necessary that due weight should be attached to those circumstances which experience has taught us are calculated to give rise to those morbid processes which are so inimical to infant life. The difficulty which so constantly presents itself is the *diagnosis*—the diagnosis not merely of the affection actually present, but of that particular influence which it is to be presumed exists.

It is obvious that these remarks more especially apply to those diseases of early life which are of a more or less chronic nature; but it is very certain that there are very few of those diseases which do not assume a peculiar character, varying according to the so-called idiosyncrasy of the individual.

The difficulty which presented itself in the case about to be related was not of the kind more particularly alluded to above. It was tolerably evident from the first that the affection under which the child laboured was of tuberculous origin, but the interpretation of the other facts in relation to the case was not so evident.

Richard S——, aged 7, a little boy whom I had previously attended, was sent home from a school in the country, suffering from a troublesome cough, and placed under my care June 18th, 1856. The child is the eldest surviving of a family of six, two of whom have died, one of convulsions during teething, the other of intestinal obstruction. It is said that tubercles were found in the lungs of one of these children after death. The parents of the child are tolerably healthy, but some near relatives on the father's side have died of "consumption." With the exception of the youngest, all the six children have suffered from convulsions, generally during the second year of life.

Previous history.—Two years ago the child had a severe attack of measles, and for some time little hope was entertained of his recovery. The convalescence was long and tedious, and he has never quite lost the cough and chest symptoms which were then originated. For the last twelvemonth, however, the health has been comparatively good, with the exception of the slight cough and deficiency of flesh.

The patient is now excessively thin; has been losing flesh for some weeks past; appetite almost completely gone; is very weak and languid. At the right side of the face, close to the labial commissure, is a patch of what appears to be the remains of an eczematous eruption; this latter has existed for a fortnight. The cough is very frequent, of a short, hacking character, and not accompanied (judging at least from the sound of the cough) with much excretion of mucus from the air-passages. The respiratory murmur is somewhat unequal on the two sides beneath the clavicles, being a little weaker on the left side. No rhonchus to be heard anywhere; no noticeable dulness on percussion; the tongue clean; the skin tolerably cool, but it is said to be occasionally very hot, and especially so at night; bowels rather costive; abdomen soft; pulse 100. To take one teaspoonful of cod-liver oil three times a day; a powder containing rhubarb and grey powder twice a week.

June 24th.—The patient is on the whole worse; the cough very frequent; appetite bad, but spirits good. Was exceedingly fatigued after a walk yesterday. The face is flushed; the skin hot; pulse 140 in the minute; respirations 40. Has lost flesh since the last report; perspires a good deal at night; cough has the same characters as before.

The chest was now again carefully examined, with the following result:—Expansion below clavicles deficient in amount, both apices rather duller than natural, the left most so. Under the left clavicle the rhythm is of a jerking character during expiration. Heart's impulse visible over a large surface; sounds healthy. At the upper interscapular region the respiratory murmur is harsher than normal; no undue dulness there. Complete absence of rhonchus. Mustard cataplasms to be applied to the chest every night; to continue the oil.

27th.—The child was taken a distance of nearly a mile in the hot sun to Kensington-gardens, where he remained for an hour or two, and was then brought home. The day was exceedingly hot, and no protection was afforded to the head. After reaching home he took little or no dinner, and complained of pain in the head. A short time afterwards (half-past three P.M.), while lying on the sofa, a fit of coughing came on; the mother heard a slight noise, and on looking round, perceived the little boy on the sofa, with his eyes wide open and fixed, the tongue protruding from the mouth, the face dark and livid, the limbs quite stiff, the jaws fixed. This condition lasted for about two minutes. The feet were put in hot water, and cold applied to the head, and after a short interval he was completely restored. A quarter of an hour afterwards the child was lying on the mother's lap, quite conscious, and much better. The eyes were closed, and he appeared to be sleeping, but answered questions readily. Pupils active, equal; tongue protruded in the median line; the head a little hot; the pulse 120; no sickness. Does not complain of pain in the head. To take two grains of calomel, and a draught containing sulphate of magnesia, &c., every six hours; cold to be applied to the head. For the greater part of the remainder of the day the child lay on the sofa asleep.

28th—During the night the patient slept pretty well. The skin is to-day cool. He has been sick several times, but has not complained of pain in the head. He is up and walking about his room. Bowels have acted freely; the motions were very offensive, and a few small ascarides were noticed with them. To take at bedtime a powder containing four grains of calomel and six of compound scammony powder, to be followed by an injection of camomile infusion in the morning. No more ascarides were noticed.

For the next two or three days nothing remarkable took place. The cough still continued, together with the night perspirations. Nothing further in any way connected with the head was noticed.

On the morning of July 3rd the child remarked to his mother that he was "making a tune with his breath," and it seems that something of the kind had been observed the day previous. He also complained of pain in the right side. At ten o'clock in the morning he was taken out for a walk. After going a few hundred yards, a violent fit of coughing came on, followed by the evacuation of a whitish matter, apparently from the air passages. After proceeding a little further, another fit of coughing came on, and with each effort a quantity of yellowish matter was brought up. The cough continued until and after he reached home, and his friends suppose that as much as half a pint of the yellow fluid must have been expectorated altogether. The description given of this matter is, that it resembled that proceeding from an abscess. An hour or two afterwards he expressed himself as feeling much better, but ate very little dinner.

July 5.—I saw him, and was made acquainted with the incident just related. Appears better, and complains of no pain. The last two nights he has slept better than before. Auscultation of the chest gave an absolutely negative result. No rhonchus at the interscapular region or elsewhere. The liver was found to be of the usual size, and presenting nothing abnormal. The thoracic cutaneous veins rather fuller on the right than on the left side. Tongue clean. Skin cool. Has been able to go for a walk, and has eaten a good dinner. Cough very slight in comparison with what it was. A crop of herpetic vesicles have made their appearance at the right labial commissure. To continue the cod-liver oil. To take beer at dinner.

A month subsequent to this report (Aug. 6th), the patient had very considerably improved. The night perspirations had disappeared; the cough, though still present, was much less frequent; the child had gained in weight, and had completely regained his appetite and spirits; the pulse 90; skin cool.

Remarks.—The patient had suffered from a slight cough for nearly two years before the commencement of the attack just related. The probability is, that slow tuberculization was during this period going on in some part of the thoracic cavity, either in the lungs themselves, or in the bronchial glands, or in both, the exciting cause of this having been the attack of measles. Shortly before the date of the commencement of the report, the cough from which the child had suffered became aggravated; the emaciation, night-sweats, and inappetency which then set in gave rise to the suspicion that the development of tubercle was proceeding rapidly. The repeated examinations of the chest dictated by this view of the case disclosed, however, comparatively little, and the result was to show chiefly that the lungs themselves were not affected to an extent commensurate with the urgency and intensity of the symptoms, if, indeed, at all. The question then suggested itself, was this a case of bronchial phthisis? The result of the case, so far favourable to the patient, however unfavourable as precluding positiveness as to the diagnosis, seemed to show that this view was correct. The diagnosis of bronchial phthisis is, as is admitted on all sides, often one of extreme difficulty, and it will not, therefore, be foreign to the subject to discuss briefly the bearings of this question on the case under consideration. The result of observation would seem to lead to the following conclusion:—If there be no evidence, on careful examination of the chest, that tubercles have become developed in the lungs, or that the pleuræ are diseased, in short, if the result be as regards these organs negative, and if at the same time the child suffers from a constant hacking cough, with fever, emaciation, night-perspirations, &c., the presumption is, that bronchial phthisis exists. Corroborative of this decision would be, of course, the existence of hereditary tubercular tendency. Such was the opinion given by Sir James Clark some years ago,[*] and other authorities do not materially differ from him. So far, then, generally speaking, there was presumptive evidence of the presence of this disease in the case in question.

The physical signs indicative in a more positive manner of the existence of this affection have next to be considered. Dulness at the interscapular regions has been considered, and justly so, of great importance, as showing the existence of enlarged glands near the root of the bronchi. A peculiar roughness of the cough, and sometimes also of the voice, have been noticed as signs of value. The enlarged bronchial glands may impede the circulation, by pressure on the vessels with which they lie in close apposition, and this effect, if at all marked, would be obvious externally in the œdema or fulness of the vessels of certain parts. Such effects might of course arise from the presence of any other tumour in the mediastinum, but tumours of the mediastinum other than those consisting of enlarged glands are exceedingly rare in children. Œdema of the face, fulness of the veins and neck of the thorax, occurring in a child coincidently with the other symptoms, would therefore be of considerable diagnostic value.

The proximity of the enlarged glands to the trunk and branches of the pneumogastric nerve is also likely to produce symptoms dependent on the pressure exercised by the glands on those nerves. Thus a peculiar spasmodic cough is an occasional symptom in cases of bronchial phthisis, the recurrent nerve in such cases being probably the one most affected. Attacks of spasmodic asthma have been noticed in connexion with this condition. In a case cited by MM. Barthez and Rilliet, attacks of this kind were exceedingly frequent. The child was three years old, and after death the pneumogastric nerves were found "amincis et gravement altérés," by the pressure of the tuberculized glands.[*] The alteration in the character of the voice, the peculiar rough cough, are obviously produced for the most part in the same way by the pressure of the enlarged glands on the nerves.

The occurrence of any one of these pressure signs is to be regarded as a somewhat uncertain event. The glands around the root of the bronchi may be much enlarged, but this enlargement does not necessarily produce such pressure on the neighbouring parts as to give rise to the symptoms just alluded to. On the other hand, it is easy to see how one gland, if situated in one particular spot, may, by its increase in size, interfere very considerably with the function of a certain nerve.

None of the signs connected more especially with the pressure of the glands were noticed in the case given above, with the exception of the fulness of the veins of the right side of the thorax, and this at a somewhat later period in the history of the case. No actual dulness was observed at the interscapular region. On the whole, the diagnosis, based on the consideration of the signs last alluded to, was rather of a negative than a positive character.

The "convulsive attack" deserves a passing notice. It followed a prolonged and extremely injudicious exposure of the child to the hot rays of the sun on one of the warmest days of the late summer. In all probability the "fit" was indicative of congestion of the brain thereby induced. At the time, however, the condition of the child in other respects, the known tendency to tubercle, and the other circumstances of the case, led to the apprehension that the meninges of the brain had become affected by a deposition of tubercle therein. No further symptoms, however, showed themselves tending to confirm this supposition. That the small entozoa which were ejected by the medicines at this time ordered had any influence in producing the attack of convulsions there seems no reason for believing. It is true that convulsions have been noticed in rare cases with the presence of entozoa in the intestinal canal, but in such cases the entozoa have been of a different species to those observed in this instance. The convulsions are easily explained without having recourse to the "worm-theory" formerly so much in vogue.

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[*] A Treatise on Pulmonary Consumption, p. 64.

[*] Traité des Mal. des Enfans. Vol. iii., p. 696, 2me ed.]

The next incident in the case which demands careful consideration took place on the 3rd of July, a few days after the attack of convulsions. On that day, and on the day before, a peculiar noise was noticed accompanying the respiration, imparting to it a somewhat musical character. The child expectorated, during a violent fit of coughing, first a whitish fluid, and after a second fit of coughing a yellowish fluid, the latter in considerable quantity. It was evident, from the description of the occurrence furnished by the attendant, that the expectoration proceeded from an abscess or cyst of some kind which had suddenly burst into the bronchi. Previously to the occurrence no tumour had been noticed under the jaw or about the neck. Whence, then, had this expectoration proceeded? The event might be explained by supposing that a vomica within the lungs had suddenly evacuated its contents. A vomica, however, sufficiently large to have furnished the matter expectorated could hardly have escaped notice in the careful examination to which the chest was repeatedly subjected. The hypothesis of the matter having proceeded from an hepatic abscess, which had evacuated itself into the air-passages, was also hardly tenable. The liver was apparently quite healthy, and no symptoms referable to that organ had at any time presented themselves. The only available theory seemed to be, that a mass of tuberculized glands at or near the root of the bronchi had undergone the process of softening, that a cyst had thereby been formed, and that this cyst had suddenly evacuated its contents into the air-tubes. The matter expectorated was not preserved, so that nothing further is to be elicited in relation to the physical characters of the matter ejected. A case is related in the *Dublin Medical Press* for 1844, and cited by MM. Barthez and Rilliet, in which death was suddenly caused by the bursting of a cyst containing scrofulous matter into the bronchi. The patient was five and a half years old. Around the root of the right bronchus a cyst had formed, and a portion of the contents of the cyst had been evacuated into the trachea, causing death in one hour. Had the evacuation of the matter in the case observed by myself been less gradual, the consequences would probably have been the same as in the case quoted. The two seem to be in other respects analogous. According to the statement of MM. Rilliet and Barthez, the broken-down tuberculous matter resulting from the degeneration of the bronchial glands is generally contained in a cyst lined by a false membrane, and this cyst may be found as large as an apple in extreme cases.

The diagnosis of bronchial phthisis, as distinguished from pulmonary phthisis, is one of extreme importance, inasmuch as the prognosis to be given in the two cases is not identical. If there be reason for believing that the deposit of tubercle is confined to the bronchial glands, and that the lungs are not involved, a much more favourable prognosis may be given than in the other case. When the cervical glands are affected with tuberculous degeneration, the system frequently recovers itself, the glands soften, the skin over them ulcerates, and the matter is discharged. Now, it would seem that a tuberculous infiltration of the bronchial glands is to be regarded as somewhat analogous to this process occurring in the cervical glands, and there is reason for believing that the result is often much the same as regards the effect produced on the health of the individual. If, then, excluding the lungs from participation in the evil, we can show that it is confined to the bronchial glands, the patient's state is to be considered as, and on the whole, a not unfavourable one. In the minds of the patient's friends the prognosis is the all-important point, and the diagnosis should therefore, in cases of this kind, be pushed as far as possible. In children presenting symptoms of thoracic tubercular disease, bronchial phthisis should always be suspected, and a careful consideration of all the circumstances of the case will generally enable us to determine, in which category the patient is to be placed, although it may be necessary to watch the case for some little time before arriving at a conclusion perfectly satisfactory.

The limits of this paper prevent any discussion as to the treatment of the case under consideration. Thus far the treatment adopted has had a favourable result, and the prognosis given has been of an encouraging nature. The further progress of the case will be watched with interest.

Radnor-place, Hyde-park, Oct. 1856.

ON THE TREATMENT OF CARBUNCLES AND BOILS.

By John Higginbottom, Esq., F.R.S., F.R.C.S.

During the first twenty years of my practice, I pursued the following mode of treatment of carbuncles :—First making a free incision through the whole substance of the carbuncle, I afterwards applied a common poultice for a few days, until the surrounding inflammation had subsided, and then daily applied the resin ointment. I paid particular attention to the digestive organs, prescribing ipecacuanha emetics, aperients, simple diet, and pure air.

During the next twenty years, I pursued the same practice, with the addition of the application of the nitrate of silver, or lint imbued with it and dried, over the surface of the ulcer and surrounding inflamed skin, instead of the resin ointment, and then a poultice.

During the last six months, I have been greatly interested in the effect of the treatment proposed by the late Dr. Physick, of Philadelphia, by the hydrate of potash, substituted for the knife, a practice which prevents all loss of blood, an object of great importance when the carbuncle is very large, and the patient old and weakly. This method of treatment would have been very desirable in the case of a large carbuncle, of no less than seven inches in diameter, which I had occasion to treat many years ago. The patient was a publican, of great obesity, and of a pale, unhealthy aspect, and could ill bear the loss of blood, and the case had been greatly neglected.

My object in this paper is to detail the result I have obtained by combining the plan recommended by Dr. Physick with that by the nitrate of silver.

An old man of eighty-four years of age had a large carbuncle, situated on the outer side of the left thigh; it was proceeding very rapidly, and was attended with much pain and surrounding inflammation. I first applied the nitrate of silver as in external inflammation, on and beyond the whole hardened and inflamed surface, round the carbuncle; and then the hydrate of potash freely on the sieve-like surface of the carbuncle, and over it a piece of lint; and lastly, over all, a common poultice, which should be renewed every eight hours. I prescribed a gentle aperient, and directed a plain, simple diet. The progress of the carbuncle was immediately arrested, and the inflammation and hardness had disappeared on the fourth day, the period the nitrate of silver also loses its effects on the skin. The slough separated in about a week, and the ulcer healed in about five weeks.

The effect of the hydrate of potash in destroying the substance of the carbuncle is admirable.

I may add, in conclusion, I have often used the hydrate of potash in diseased growths with great advantage, and, with common care in the application, it does not injure the surrounding skin; indeed, I have remarked the complete destruction of the diseased growth, leaving the surrounding skin in a healthy state.

The difference of the effects of the nitrate of silver and of the hydrate of potash is very manifest in the case of carbuncle, the former being a *preservative*, the latter a *destructive*, agent. This distinction is all-important.

In the incipient state of both boils and carbuncles, before the skin is broken, the application of the nitrate of silver, applied as in external inflammation, will often arrest their progress.

During long experience, *I have never prescribed alcoholic stimulants*, and I have not seen a fatal case of carbuncle. I have found it much better and safer to pursue the plan of inducing a healthy state of the digestive organs. Where a tonic is required, quinine, with compound infusion of orange-peel and dilute sulphuric acid, is the best.

In a paper by Benjamin Travers, jun., Esq., published in January last, "On the Treatment of Boils and Carbuncles by the Hydrate of Potash," he concludes by saying, "I find from the report which I lately read in a newspaper, that in 1854 there occurred ninety deaths from carbuncle in the metropolis alone."

Nottingham, November, 1856.

THE "READY METHOD" IN ASPHYXIA. SUCCESSFUL RECOVERY AFTER ORDINARY MEANS, TRIED FOR AN HOUR, HAD FAILED.

By A. Legat, M.D., South Shields.

Having had occasion to visit a lady, three or four miles distant, on the 3rd instant as I drove to the door I was requested to go immediately to the coach-house to see "an extreme case." On entering the harness-room, I saw stretched *on his back* before a warm fire, partially enveloped in blankets, a muscular-looking young man, surrounded by four or five others, one of whom was supporting his head. The lips and face were blue, the surface quite cold, and the body so rigid that the right hand, which rested over the pubes, and the left arm, bent at right angles over the chest, could not without difficulty be changed from their position. There was no pulse, and no respiration could be detected. A slight quivering was observed throughout the body for an instant, and in this movement seemed the only hope that life might be restored. Exactly an hour had elapsed since he was taken out of the sea, and at that time he spoke a few words. Blankets were taken down to the beach. He was well rubbed. An attempt was made to administer brandy, which it would appear he could not swallow, and he was then carried about four hundred yards to the room where I found him. He had been lying here about half an hour, *during which time he had not spoken*, and for the last ten minutes of it he had been in the condition above described. Those around him told me "they feared it was too late to be of use to him." I felt there was no time to be lost. The window of the room was ordered to be thrown open, and placing my watch on the floor before me, for the purpose of correct observation, I knelt down, and with my right hand on his left shoulder, and my left on the side of his chest, commenced the movements described by Dr. Marshall Hall. He was rolled gently over on his face (the mouth and nostrils being carefully kept free), and then back again on his side "and a little beyond" every four or five seconds. About seven minutes had elapsed when I heard more than one of the bystanders say "it was of no use;" but the movements were steadily persevered in, accompanied with occasional slappings with the open hand over the back of the chest, and rubbing of the limbs upwards by two assistants. *In twelve minutes* I first detected indications of returning respiration, and *in six minutes more*, accurately noted, the breathing was natural. I then made him swallow a little brandy, and saw him again in half an hour, before I left, perfectly safe.

Remarks.—Three months have just elapsed since the short but excellent rules, from the able pen of Dr. Marshall Hall, for the restoration of the drowned appeared in The Lancet, and now the second instance of remarkable recovery by their means is recorded. I could conceive no case which could put this new method more severely to the test than the present one. Every attention had been paid to the man from the moment he was removed from the water—warm blankets, continued rubbing of the body, the application of mustard, the administration of brandy, removal to a warm fire, &c.; and yet, notwithstanding all this, instead of getting better, he grew worse, and must inevitably in a few minutes more have been beyond all reach of art. And why? Because his kind and attentive neighbours, although doing their best for him, had been pursuing a plan opposed to his recovery. Three causes evidently operated against the poor man—1st, the attempt to give brandy, which he could not swallow; 2ndly, the carrying him nearly four hundred yards; and 3rdly, the placing him *upon his back*, all of which, in his enfeebled condition, must have tended to reproduce and prolong the asphyxia. An hour elapsed, postural respiration was tried under this disadvantage, and in eighteen minutes the respiration was free!

It would be well if the Royal Humane Society would withdraw their old "rules," so liberally scattered about, and replace them with the concise and simple instructions of Dr. Marshall Hall. Ordinary intelligence and perseverance, with a knowledge of such rules, I feel certain, would be the means of saving very many lives.

I beg also to suggest to my professional brethren this plan for the purpose of resuscitating patients thrown into a critical condition from the administration of chloroform. The present method of seizing the tongue with forceps to pull it forward will be unnecessary, and command over the respiratory organs will be found to be surprisingly great.

November, 1856.

ON THE FERRUGINOUS TREATMENT OF PRIMARY SYPHILIS.

By Henry Behrend Esq., M.R.C.S.E., Liverpool.

The great question which awaits solution with a view to arrive at a correct and philosophical treatment of syphilis, is that of the identity or plurality of the venereal poison. It is not my present intention to consider the theories and arguments which have been brought forward in support of either view; but I may be permitted to state, that the balance of opinion inclines in favour of the unity of the virus, and those who are of this belief point triumphantly to the experiments of Ricord as offering a complete demonstration of the truth of the opinions they maintain. Our knowledge of the subject does not as yet enable us to explain satisfactorily the cause of the different appearances of the primary venereal sore, nor to predicate the form which will present itself under certain circumstances. There can be but little doubt, however, that the various characters of chancres are attributable to influences foreign to the specific cause which produced them, and the type of sore depends upon the idiosyncrasy of the patient, and the circumstances under which he is or has been placed. That a certain combination of these will coexist with a particular form of sore, may be taken as the basis of an inquiry, than which none more interesting can be found in the whole range of medical science; and it is upon the solution of this point that the rational treatment of the venereal disease must ultimately be made to depend.

Unless guided by some fixed principle, there is nothing more embarrassing to the young surgeon than to be called upon to treat a case of primary syphilis. His experience alone is insufficient to guide him; and if he turn to the pages of the authorities on the subject, he will find such a mass of contradictory arguments and directions, that he will be lost in the maze of opinions, and be eventually compelled to strike out a course for himself. In the treatment of this, as of many other diseases, we put too much faith in tradition, and are mercurialists or non-mercurialists—not so much because we can give a reason for our belief in either system, but because the one we follow was the doctrine of the school in which we were educated, and is that of which we have the most experience. If it be true, as I believe it is, that there is but one venereal poison, modified according to idiosyncrasy, it follows as a corollary, that there must be but one principle of treatment, also modified in accordance with that idiosyncrasy. Holding this opinion of the necessity of identity of treatment to meet identity of disease, I had an opportunity of applying it both in civil and military practice for a considerable period of time, with a success which more than equalled my expectations. Having forwarded a Report of the treatment in the Military Hospital at the North Fort, Liverpool, to the Director-General of the Army Medical Department, with a view to its being tested on a larger scale, I have been requested by him to bring the subject before the profession, by the publication of the Report, in the pages of one of the medical journals.

In March, 1854, I was consulted on the following case:—Mr. S——, aged twenty-seven, of sanguine temperament, florid complexion, no hereditary cachexia, and accustomed to live well, perceived, some ten days after suspicious connexion, a little pimple on the inferior surface of the penis, about an inch in front of the scrotal margin. Not deeming it of importance, he lanced it, but it became painful, and he applied to me on the 24th of March. I found a small, deep, circular, irritable sore, with a profuse discharge of a thick, dark-coloured secretion; it was very painful, especially at night. I used the lunar caustic, ordered zinc lotion and warm-water dressings, and recommended him to take blue-pill, but discontinued them after he had taken six or eight, as the character of the sore became developed. It gradually increased in size, and as I found that he increased the irritation by moving about, and attending to his business, I recommended him complete rest, and on the 30th of May he went home to his friends, some thirty miles from Liverpool. I had a consultation with his surgeon there in the course of the following week. At this time the chancre had assumed a circular form, and appeared the size of a shilling, but it was in reality very much larger, as the edges overhung, and a probe could be passed without any difficulty for a considerable distance underneath them; it was not very deep, and the discharge was less in quantity, but equally dark in colour; it was exquisitely painful, the slightest touch caused him to scream, and he had hardly any sleep. He was confined to his bed, and ordered the potassio-tartrate-of-iron lotion (one ounce to six of water) and a pill of the iodide of mercury. I wished him to take the potassio-tartrate of iron internally, but this was overruled. The sore was so painful that he could not bear the lotion, however much diluted. A variety of other local applications was employed, including plasters, ointments, oak-bark decoctions, &c., and the nitrate of silver and strong nitric acid were frequently used, but they had hardly a fair trial, as the sore was so sensitive that he shrank from the slightest touch, and would allow no one but himself to apply the caustics. At length Ricord's aromatic wine was used as a local appliance, the nitrate of silver was employed daily, and he continued the iodide of mercury pills. Opium was given in vain to produce sleep. We allowed him generous diet, and a bottle of claret a day. Under this treatment, the discharge improved in appearance, but the sore continued its gradual increase. On the 27th of June, after remaining a month with his friends, his medical man advised removal to the sea-side, and he was accordingly put once more under my care at New Brighton. I found him in very depressed spirits, he had lost his ruddy complexion, and was much reduced from pain and loss of sleep. The sore was about the size of a florin, and had extended to the scrotum, a portion of which was included in it; the margins were rough and elevated, and were level all round with the extent of the sore. At one margin, upon examination by a magnifying-glass, an attempt at cicatrization was perceptible; elsewhere no appearance of the kind was visible. The discharge was healthy. I ordered him to cease the treatment he had previously pursued, to take two teaspoonfuls of the potassio-tartrate-of-iron mixture (one ounce to six), three times a day, and to apply the aromatic wine twice daily. Generous diet, a bottle of champagne a day, plenty of fruit, no pastry or cheese. An improvement became at once manifest. He took the iron after a few days in the form of pills instead of the draught, the taste of the latter being objectionable, but no other change was made in the treatment. Cicatrization went on rapidly, and the margins and granulations, which required stimulation, were touched daily with the Vienna paste or the nitrate of silver. At the end of the first week of this treatment, he slept well, had an excellent appetite, and was able to leave the house and take short walks; and at the end of the second, he came to Liverpool, and attended to his business. At this time, the sore had cicatrized so rapidly as to be reduced to the size of a fourpenny-piece; the granulations were perfectly level, and the margins but slightly elevated; the portion of the chancre which was healed had left a hard, thick, and solid cicatrix. On the 27th of July, he ceased all treatment, and the sore was entirely cicatrized, with the exception of a point, scarcely as large as a pin-head; he had for some days been very careless, thinking himself quite well, and had left off all local applications. I ordered him to use a weak lotion of sulphate of zinc, and in five days the chancre was completely healed. He had now regained his usual appearance, suffered no inconvenience whatsoever, and was in perfect health. I saw this gentleman a few weeks ago, when he informed us that he had no secondary symptoms.

The employment of the potassio-tartrate of iron in the treatment of phagedænic chancre is no novelty, having been recommended by Ricord ten years ago, and prescribed by him since, both in hospital and private practice. The method of its administration is given at some length by Mr. Acton, and though I differ from him in some of the details, yet I quite agree with him in the high estimation in which he holds the remedy. The above was the first case in which I had the opportunity of giving it a fair trial; and holding the opinion that the virus of a phagedænic chancre is identical with that of every other form (the phagedæna being attributable to special circumstances, and, as it were, a modification superadded to the original disease), I determined to treat every case of primary syphilis that should present itself to me in precisely the same manner. The accumulative experience of each case confirmed me in the correctness of this view, and has given me entire confidence in the powers of the potassio-tartrate of iron to cure every type of the primary sore. Of course, there must be special cases which, owing to some reason that I confess myself unable to explain, will fail to yield to this method of treatment, precisely as there are special cases of ague which resist the action of quinine; but I believe the exceptions will be equally few. I have, however, had no opportunity of testing its efficacy in sloughing phagedæna, not having during the last two years met with a case. In military hospitals in this country, owing to the regular inspections of the troops, this type of veneral sore must be exceedingly rare, and it is an undoubted fact that in civil practice also, even in the hospitals of large seaport towns, we no longer see such fearful complications of this disease as were formerly prevalent. Of course, I do not exclude the use of caustics in the treatment, if necessity arise for their employment; but so far I have had no occasion to resort to the use of any but the nitrate of silver. I prescribe the potassio-tartrate for internal administration in the form of a solution of one part of the salt to six of water, of which two teaspoonfuls are to be taken three times a day, or according to circumstances: and I use a solution of the same strength twice or thrice a day as a local application to the part, diminishing the frequency of the application as the case progresses towards a cure. With very rare exceptions no other remedial agent is employed. It is necessary to give instructions to the patient to be careful in the appliance of the lotion, as he is extremely liable to remove the lint roughly, and take away with it an incipient cicatrix or healthy granulations. As, owing to a variety of circumstances, the primary sores met with in military hospitals are much more simple than those we see in civil or private practice, I will give first brief notes of some of the former class of cases.

Superficial Chancres; Cure in seven days.—Joseph S——, gunner, admitted into the Military Hospital on the 10th July, 1855, with two chancres on the external surface of the prepuce, superficial, and healthy in aspect, but with florid and exuberant granulations. The potassio-tartrate of iron treatment.

12th.—Ulcers contracting, perfectly level with the surrounding parts, and very florid.

14th.—The chancres have been cicatrizing for the last two days; but he has removed the lint roughly, and caused hæmorrhage whenever the dressing has been renewed.

16th.—One sore perfectly healed; a mere red point remains to mark the site of the other.

17th.—Sores quite healed. Discharged, fit for duty.

Chancre; cure in eight days: bubo.—John S——, gunner, admitted into the Military Hospital June 30th, 1855, with bubo in the left groin. He had been taking extreme exercise for some days previously, and he stated that the swelling had appeared suddenly. It is of very large size, with undefined borders, harder at the circumference than the centre, and had evidently existed for a much longer period than he admits. He denied any venereal taint, nor are there any marks of recent chancre. He was ordered rest and poultices, and the bubo gradually progressed towards suppuration. On the 7th of July I found a venereal ulcer on the frænum; and upon being closely pressed, he confessed that previous to the appearance of the bubo he had perceived a slight excoriation on the frænum, not far from the present one, but it had healed in a few days, and left no cicatrix. Upon minute examination, however, I discovered traces of its existence. The present ulcer is about the size of a small pea, cup-shaped, with very irregular edges, not deep, but uneven, and has a markedly venereal aspect. Owing to some difficulty in obtaining the potassio-tartrate, he did not commence the treatment until the 10th of July.

July 12th.—The chancre looks much healthier, is granulating from the base, and rapidly contracting.

16th.—Contraction progresses rapidly; the aspect of the sore is healthy, and the discharge slight; no pain.

17th.—The bubo was lanced this morning, and discharges freely.

18th.—The ulcer is quite healed, and has left no hardness in the cicatrix. To cease all treatment, and apply pressure over the bubo.

Chancres of the prepuce; cure in twenty-one days.—John M——, aged twenty-two, gunner, admitted into the Military Hospital October 10th, 1855, with two or three chancres on the upper and external surface of the prepuce. He states that they have existed for six days, and shortly after their appearance he applied caustic freely, causing considerable irritation in and around the sores. In consequence of this they bleed freely at the slightest touch, and are very irritable and painful. To commence the iron treatment.

Oct. 19th.—The sores are now perfectly level with the surrounding parts, having granulated regularly. To change the lotion only twice daily.

31st.—The sores have been cicatrizing for some days past, but he carelessly removed the cicatrices in applying the lotion. They are now, however, firmly and perfectly healed. Discharged.

Chancre of the prepuce; partial phymosis; bubo: complete cure in five weeks.—Robert H——, corporal, aged twenty, admitted into the Military Hospital, September 24th, 1855. A figure-of-eight chancre exists on the internal surface of the prepuce, which is much swollen, and secretes a thick and copious discharge. He perceived the sore five days ago, and it is in the progressive stage. There are four or five smaller ulcers, also inside the prepuce, but nearer the frænum, and a bubo in the left groin. I touched the sores with the solid nitrate of silver, and ordered the iron treatment; poultices to the bubo.

Oct. 4th.—The figure-of-eight chancre has quite healed; a fresh one has made its appearance near the edge of the prepuce, on the internal surface; it is deep and groove-like in shape. Touched with caustic; continue the treatment.

19th.—The bubo is undergoing absorption; the chancre forms a deep and narrow fissure, which secretes freely, and does not progress satisfactorily. I have always found sores of this form the most difficult to treat. Touched it occasionally with caustic, and continue the iron.

28th.—The chancre is almost healed, having granulated rapidly during the last few days; it is nearly level with the surface, and has a very healthy appearance. To leave the hospital, and attend to his duty, ceasing the internal administration of the iron, but continuing it as a lotion. I saw him again in the course of a few days, when the sores were all perfectly healed.

Chancres; partial phymosis; incipient bubo: cure in twelve days Michael L——, gunner, aged eighteen, admitted into hospital December 3rd, 1855. He has two or three small chancres at the junction of the prepuce and glans, with swelling of the prepuce, and a small bubo in the left groin. The iron treatment, and to apply warm water dressing over the prepuce, to reduce the œdema; rest in bed.

Dec. 8th.—The sores look healthy, and discharge slightly. The bubo is diminishing.

11th.—The sores are nearly healed, and the preputial œdema has entirely disappeared.

14th.—All the chancres are cicatrized, with the exception of one which is now scarcely larger than a pin-head, quite level with the surrounding parts, and so nearly healed as to require only water-dressing. To cease the ferruginous lotion.

15th.—The remaining sore has healed, but the cicatrix is so recent that I recommended him to continue the water-dressing for a few days after quitting the hospital. To attend to his duty.

Chancres; cure in a month.—James W——, gunner, aged twenty-one, contracted two chancres a week ago. They are situated at the junction of the glans and prepuce, are of unhealthy appearance, and spreading. Admitted into hospital February 2nd, 1856. The sores were touched with the nitrate of silver.

Feb. 4th.—To commence the iron treatment.

13th.—The sores are larger and more excavated, forming deep ulcerations. Applied the caustic occasionally. To continue the treatment.

17th.—The sores have rapidly improved, and are granulating quickly and healthily. There is considerable preputial œdema. To remain in bed, and apply cold water over the prepuce, continuing the potassio-tartrate internally, and as a lotion.

22nd.—The chancres are so nearly healed, that he may cease the lotion, and substitute water-dressing.

27th.—Discharged, the sores having cicatrized.

March 3rd.—The cicatrices not being firm, he was re-admitted, and applied the iron lotion until the 9th, when, being perfectly cured, he again resumed his duties.

Series of chancres: cure in eighteen days.—Henry G——, gunner, aged twenty, admitted into hospital July 25th, 1855. Three or four chancres situated at the juncture of the fold of the prepuce and glans, communicating with each other, and forming a chain of sores, encircling the glans, of great depth, and discharging profusely. A severe case. He noticed them first three or four days ago; but as he has been absent on leave, they have, doubtless, existed longer. The iron treatment.

July 26th.—No pain; the chancres have at once assumed a healthier aspect, and discharge less.

28th.—The sores are contracting with amazing rapidity; the two at the extremities of the chain have completely healed, leaving but one large one in the centre of the group; very slight discharge.

31st.—The chancre is level with the surrounding parts, but not cicatrized.

Aug. 1st.—Touched the sore with nitrate of silver. Continue the treatment.

3rd.—The sore has now entirely healed.

5th.—There is no ulceration now; but a slight vegetation exists in the site of the last-healed chancre. To apply caustic. Continue the potassio-tartrate internally, and water-dressing to the growth.

8th.—No trace of the sore now left; and the fold of the prepuce and glans has resumed its natural soft and velvety appearance. No induration whatever. The caustic has produced a slight excoriation upon the glans, at some little distance from the original sores; it has nothing venereal in its aspect, and is quite superficial. To apply the iron lotion.

9th.—The excoriation is healing. To leave the hospital for a few hours daily for exercise.

11th.—The excoriation has healed. Discharged fit for duty, but I recommended him to continue the iron lotions for a few days, to avoid any friction of the parts. To cease the internal administration of the potassio-tartrate.

19th.—Inspected him to-day prior to his proceeding with a detachment for the Crimea, and found no trace of ulcer or excoriation, and no induration.

Excoriations of glans and prepuce: cure in three days.—James T——, gunner, aged eighteen, was placed on the sick report July 19th, 1855. Numerous excoriations were found on the internal surface of the prepuce, and on the glans. He was ordered to apply water-dressing, and to continue at duty. On the 21st there was no improvement, and indications of an ulcer presented themselves inside the prepuce. He was taken into hospital on the 22nd, and I found a great number of excoriations and small vegetations studding the parts. He complained of little or no pain, and though the appearances and history were suspicious, yet I could not decidedly diagnose it as a case of syphilis. To use the potassio-tartrate of iron lotion, but no internal treatment.

July 23rd.—Having applied the lotion assiduously for twenty-four hours, the excoriations are all entirely healed, and there are but a few reddish elevations to mark the site of the vegetations. These also disappeared the next day under the continuance of the application, and he was discharged, cured, on the 24th.

ON A CASE OF ENCYSTED ABSCESS OF THE LEFT HEMISPHERE OF THE BRAIN, WITH DROPSY OF THE VENTRICLES.

By Thomas Chaplin, Esq., M.R.C.S. & L.S.A.,

RESIDENT MEDICAL OFFICER TO THE BLOOMSBURY DISPENSARY.

Maria H——, aged nine years, was admitted into the above institution in September, 1855. She was then suffering from vomiting, pain in the head, constipation, and occasional delirium. The skin was hot, the face flushed, and the pulse slow but irritable. Leeches were applied to the nape of the neck, mercury administered so as to affect the gums, with purgatives and effervescing salines. The patient somewhat recovered, but afterwards became worse. Blisters were applied behind the ears, and iodide of potassium given internally.

In December, she began to have frequent rigors, attended with coldness of the surface, and an almost imperceptible pulse. After several partial recoveries and relapses, she gradually sank into a semi-comatose condition, in which she took no notice of what was going on around her, and, if roused and spoken to, would sometimes answer, and sometimes only manifest signs of impatience. There was no paralysis; but the arms were sometimes stiffly bent. She lost the sight first of the right, and afterwards of the left eye; she always laid on her left side, and would not be turned until towards the last, when she laid on whichever side she was placed; she had a few convulsive attacks, of no great severity. The vomiting continued at intervals until death, which took place on the 15th of February, 1856.

Autopsy, ten hours after death.—The body was extremely emaciated. There were bed-sores on the back and hips, and a small abscess in the posterior part of the scalp. Only the head was opened. The dura mater was more than usually vascular; but there was no blood in the superior longitudinal sinus. Arachnoid remarkably dry, and less glistening than usual. Some recent adhesions, between the opposite surfaces of the arachnoid, at the superior part of the brain, on each side of the median fissure; and, in the same situation, numbers of minute cheesy tubercles. A large abscess occupied the anterior part of the left hemisphere; and around it the brain was in a state of almost diffluent softening. The purulent matter was nearly four ounces in quantity, thick, and of a greenish colour. The walls of the abscess were firm and tough. Beneath it another cyst, as large as a pullet's egg, was discovered, which was removed entire from the brain; and, on being opened, was found to contain pus of the same character. The ventricles were much distended with slightly opaque fluid, containing flakes of semi-purulent albuminous matter, a layer of which was deposited on the lining membrane. The whole of the structures forming the interior of the ventricles were softened, but not diffluent. The choroid plexuses were pale and almost bloodless. No deposit of tubercle was detected in the substance of the brain. The abscess in the left hemisphere, projecting beyond the mesian line, had produced a depression in the opposite hemisphere as large and deep as a teaspoon. On removing the brain, very firm adhesions were found between the opposed surfaces of the arachnoid, at the front and anterior part of the base of the left hemisphere. At the base of the brain, the arachnoid was thickened and opaque, and covered with flakes of cheesy albuminous substance. No traces of echinococci could be discovered by careful microscopical examination in the pus of the abscesses, nor did their walls present the peculiar laminated appearance which characterizes the hydatid cyst.

The chief interest of this case arises from the occurrence of encysted abscess of the brain in conjunction with the pathological conditions which constitute the affection known as *acute hydrocephalus.* The sthenic form of inflammation necessary to the production of the one condition is of such an opposite nature to the dyscrasia which gives rise to the other, that it is not easy to arrive at a satisfactory explanation of their concurrence. In the endeavour to elucidate the history of the morbid changes, the notion of the hydatid nature of the cysts was at once suggested, and notwithstanding the absence of the peculiar anatomical characters of the entozoon, there is still considerable probability that such was their origin. It is very difficult, upon any other hypothesis, to account for the coexistence of these well-organized products of the inflammatory process, filled with thick, healthy pus, and the softening, the effusion and the deposit of kakoplastic, albuminous matter which characterize the strumous inflammation. But whatever may have been the origin of the cysts, it is obvious that they had no immediate connexion with the scrofulous disease, and an examination of the sequence of the symptoms leads to the supposition that they had fully formed before the hydrocephalic changes took place, and that these latter must therefore be regarded as secondary to them. It is interesting to notice a symptom which likewise occurred in another case of brain-disease which fell under my notice some time ago—namely, the unwillingness of the patient to lie upon the side opposite to that on which the abscess existed. Perhaps attention to this circumstance may sometimes afford us some intimation as to the situation of the purulent collection, where the absence of paralysis or other indications renders it difficult to form an opinion. In this case, the copious effusion that occurred in the latter stage, and which affected equally both sides of the brain, tended in great degree to obscure this sympton.

Great Russell-street, Bloomsbury, Nov. 1856.

TRUE ANCHYLOSIS OF BOTH ELBOWS IN A NEARLY EXTENDED POSITION, IN WHICH RESECTION WAS PERFORMED ON THE LEFT.

BY C. HOLTHOUSE, ESQ., F.R.C.S.,

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MAHOMET ——, aged thirty-nine, a strong, healthy looking Turk, of Smyrna, consulted me, on the 30th July, 1855, for anchylosis of both elbow-joints. The forearms formed an angle of about 160° with the arms, and were completely immovable in this position, so that he was unable to put his hands to his head or his mouth, and could only partly dress himself. The movements of pronation and supination were perfect, and he had full command over, and great strength of, the wrist and fingers, as well as free movement of the shoulder and other joints. The triceps, anconeus, biceps, and brachialis anticus muscles were much wasted. *History:* Eighteen years ago he had small-pox which was followed by inflammation in both elbow-joints, and this terminated in the complete anchylosis just described.

August 7th.—The patient having been put under chloroform, an incision was made across the back of the left elbow-joint, from the outer to the inner condyle, a little above the extremity of the olecranon process, and another parallel with it about two inches below; these were connected by a third incision; and the flap thus made being turned aside, bony matter was found to connect the condyles with the olecranon process, so as firmly to unite the humerus and the ulna, and effectually prevent the slightest movement. The ulnar nerve having been drawn out of danger, the united bones were sawn through from behind forwards, from one condyle to the other, and the remaining bridge of bone, which, for want of the necessary instruments, could not be divided without injuring the soft parts, was broken by placing the knee in the hollow of the elbow and bending the arm across it; small angular portions of bone were removed with the forceps, and the forearm was brought close up to the arm. Two or three vessels were tied, and the flap of skin was replaced, and loosely retained in situ by a few sutures. The limb was then placed on a splint; a pad of wet lint, lightly bound on by a wet bandage, was applied, and the patient sent home, a draught containing sixty drops of laudanum having been given him to take at bed-time. Supination and pronation of the hand, and extension and flexion of the wrist and fingers, were as perfect after the operation as before.

8th.—The patient walked to see me this morning, a distance of nearly two miles, and looked as well as he did before the operation. He had slept soundly during the night, and felt but little pain this morning. Some venous hæmorrhage took place in the course of yesterday evening, which had now quite ceased; and the bandage was so firmly glued on by the blood that no attempt was made to disturb it. A draught containing thirty minims of laudanum was ordered to be repeated every night.

11th.—The patient had slept well every night, and had walked to see me every morning. The wound looked healthy, and two of the ligatures were removed from the flap, which had already nearly united; but those on the arteries still remained firm. The opiate at night was ordered to be discontinued.

16th.—All the ligatures had come away, the wound looked perfectly healthy, and the patient had not experienced a bad symptom. The position of the limb remained at the angle at which it was placed after the operation—viz., about 80°, but no passive motion had yet been made.

Unfortunately for this poor man, I was obliged at this date to leave Smyrna for Constantinople, and did not see him again till the beginning of the following month. At this period the wound made by the operation had healed, except at one point, where I was informed some small pieces of bone had come away. Very slight movement now existed at the elbow, which altogether ceased in a few days, and the arm was again firmly anchylosed, in a position too extended to permit him to place his hand to his mouth. This *contretemps* appeared to be the result partly of the wound, and partly of the want of perseverence in making passive motion of the limb by the gentleman who had charge of the patient during my absence. Under these circumstances, I determined on making another attempt to place the limb in a better position, and accordingly, on the 12th of September, the patient was again placed under chloroform, and forcible flexion employed, with my knee placed in the hollow of the elbow, but without success. Forcible extension was then tried, and the bones at length gradually yielded, till the arm and forearm were brought nearly into a line with each other; force being then applied in the opposite direction, I this time completely succeeded in flexing the forearm. Flexion and extension to their full limit were repeated three or four times, and the limb was then put up with wet strapping, and a wet bandage in a tin splint, at an angle of about 80 degrees. A drachm of laudanum was administered, and he was sent home.

Sept. 14th.—The patient had no sleep last night, and was in much pain this morning, though the arm and elbow looked well, and were not swollen. He was somewhat low spirited, and made signs that he could not now use his hand or fingers. A drachm of chloric ether and a drachm of laudanum were ordered to be taken every night at bedtime, and the limb to be kept constantly wet with cold water.

18th.—Inflammation of a severe character, attended with great pain, had at this time set in, and pus made its way through a portion of the original wound, which had remained uncicatrized. Hot fomentations and a warm bread-and-water poultice were ordered instead of the water strapping.

20th.—A small abscess formed in the neighbourhood of the joint, into which I yesterday inserted a lancet, and to-day he was considerably better. The swelling of the arm and forearm had subsided, and he was more free from pain; the hand could be brought to the mouth, and he was able to bear slight passive motion. As he felt more ease from the water-strapping than from the poultice, the latter was ordered to be discontinued.

25th.—Three days ago, the opening made by the lancet having healed, and all inflammation having nearly disappeared, passive motion was again tried, and repeated daily; inflammation, however, was again set up in the part, and matter once more formed in the old situation. This caused a good deal of constitutional disturbance, and took away the patient's sleep and appetite. It was let out by a free opening, and a pledget of lint inserted. An effervescing draught, with tincture of opium and aromatic spirits of ammonia, was directed to be taken every three hours, and half a grain of morphia in a pill at night.

Oct. 2nd.—A sinus formed, and threatened to prove tedious, but a dossil of wet lint being bound tightly on the part by water strapping, it had now quite healed. A little matter, however, pointed yesterday on the outer side of the joint, into which a puncture was made. The inflammation had now subsided, and the wound seemed ready to heal. All constitutional disturbance has disappeared; the arm is in a favourable position, so that he is able to sweep his head and his face with his hand, and a slight movement exists at the joint.

13th.—The arm was now nearly well, and the patient seemed quite satisfied. Flexion and extension of the elbow could be performed passively to a slight extent, while that of the wrist and fingers, and pronation and supination of the hand, remained as perfect as before the operation.

REMARKS ON THE FORMS OF LOCAL INJURIES JUSTIFYING THE AMPUTATION OF A LIMB.

By F. C. Skey, Esq., F.R.S.,

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To the real student of Medicine or Surgery, the wards of a large Hospital like St. Bartholomew's furnish an uninterrupted current of valuable knowledge throughout the year. There is no limit to this interest prescribed by the medical session; the current is unremitting, the supply interminable and exhaustless. As a teacher of Surgery to young men of less experience than myself, I would endeavour to select from this almost redundant stream, that kind of information which can be rendered the more subservient to their use, and such as will more readily apply to their own future requirements. These examples are such as are obtainable, not in insulated forms in which disease or accident of a rare or eccentric kind present themselves, and which teach nothing beyond the mode of treating that disease and that alone, but rather should be obtained in groups of many cases, the study and observation of which involves important surgical principles, applicable not exclusively to them alone, but to a large class of diseases of various kinds. Cases that present features of specific character, being peculiar to themselves, although less valuable to the student of Medicine, simply because the experience acquired by their treatment is less available hereafter, are not, however, to be neglected. If they teach nothing more, they furnish fresh evidence of the boundless resources of Nature in reconstruction, and of her interest in the extension of human life.

Some of these diseases I have already made the subject of clinical remark in the theatre of the hospital; but I make no apology for their introduction to the notice of the readers of The Lancet.

The first remarks I make relate to one of the most pressing subjects connected with the practice of surgery,—namely, the question of amputation of limbs for local injuries. This is, perhaps, the greatest of all questions, for it involves serious and permanent mutilation of the body; and, of all subjects of operative surgery, it is that which demands the most deliberate judgment, the highest standard of professional morality, and the broadest and soundest views of the vital forces of the body.

I am persuaded that in proportion as we study diseases and make ourselves familiar with the curative resources of Nature, the greater will be our faith in her power of reparation, and in her desire to exercise it.

If we compare the present with the past, it will not be denied that the conservative principle has gone forth. Injuries that formerly condemned a limb to immediate amputation are now found to be amenable to treatment. Can we suppose ourselves to have reached the goal of perfection in our judgment? Is there nothing left for us to learn? Take the hospitals of the metropolis. Is the knife resorted to in an equal proportion of cases, in all? How stands this question in the provinces? Within four years of the present date, a provincial hospital containing less than one-fifth of the number of patients who sleep every night in St. Bartholomew's, recorded a larger number of amputations within one year than were performed within the same period in the great metropolitan hospital; and when to this description is added the fact, that the hospital in question is situated in a strictly rural, and not in a manufacturing district of England, I may well ask, Where is the standard of surgery by which we are guided in the amputation of limbs? In truth, there exists no standard; and the consequence is, that the limb which is preserved in one hospital, or in one locality, is amputated in another. Now, this is a grievance which may be fairly urged against the surgical profession by that large community for whose benefit we profess to have ascertained and adopted the most eligible means of curing diseases and of relieving the consequences of local injuries. It is doubtless a question of difficulty, which can only obtain a solution through the medium of experience. But the means of obtaining this experience are denied to the individual, and can only be obtained in the aggregate. And hence the inconsistency of professional practice, the cause of which forms a very legitimate subject for examination and inquiry.

It would appear to arise from various causes operating upon the mind, and hence determining the conduct of the operator. The first, and perhaps the most impressive in its influence, consists in the different degree of reliance placed by different surgeons on the power and resources of Nature in the cure of diseases. Men adopt different views of the power of the curative art. With some it holds the relation of a *vicegerent;* with others, of a *handmaid.* Our minds are not universally impressed by the conviction, that Nature cures diseases, and not we; and that the province of the surgeon, beyond which he cannot step one foot, consists in removing obstacles in her path. If this wholesome fact were impressed more deeply on the professional mind, would it not instinctively lead to a closer observation, and of necessity to a higher appreciation of her powers? At a period as late as half a century back, amputations were at least three times more frequent than at present? Why are they now less frequent? Not because severe injuries are wanting, or that diseases have proved universally tractable, but because by the study of physiology we have become, comparatively speaking, familiar with the power which Nature wields, and by the observation of the greater resources of the body than were known to our grandfathers.

Secondly, because I do honestly believe there to exist a higher tone of feeling in the professional mind, a higher appreciation of the value of human life, and a truer sympathy with human suffering. I believe also, that a very general observance will corroborate my own impression, that as a rule, the greater the experience of the surgeon, the fewer the operations, and, as a necessary inference, his greater reliance upon Nature. I am quite convinced, that these powers have yet to be fully ascertained; and, when tested by the few, they will eventually be acknowledged by the many. This progress of medical opinion is elaborate and slow, but it is not the less sure.

Thirdly, because we have identified our opinions with what I believe to be most erroneous views propounded by our fore-fathers on the subject of what were termed secondary operations. The theory of this almost universal law of surgical practice is this: that it is better for the constitution to bear one shock than two; and no reflecting man will deny it. It, therefore, resolves itself into the necessity of an immediate decision—"Now or never." "Now" saves life, but at the expense of a limb; "Never" risks life, and it is our first duty to preserve it. But this well-sounding theory, although it proclaims truth in the abstract, does not proclaim truth in the application. It is true to the letter, not to the spirit. The exceptions to its application are infinite; strictly speaking, it only applies in full force to cases of extreme injury, such as large contusions, crushings, or lacerations of the limbs, recovery from which is beyond hope or appeal. Consequent on such destruction, the constitution must necessarily sink; and the earlier the amputation, the more probable the recovery, because collapse of the vital powers is the certain issue, and reaction is impossible.

And here let me ask a question not inapposite to the purpose—After what period of time from that of the injury may an operation be undertaken which brings it within the category of the law? At the expiration of how many hours is a primary converted into a secondary operation? By *immediate amputation* I understand the removal of a shattered limb as practised on the field of battle, when the sufferer is removed to the rear for that purpose. But if several hours elapse, do we still retain the term "immediate amputation?" We make no distinction between an interval of one hour and a quarter of a day, on which distinction everything depends. If, then, we lose by distant absence from the case (a very frequent condition of things) the advantage of immediate amputation, is it not an additional element in favour of the treatment which appeals to Nature, and which calls upon her to put forth her powers of restoration? Mr. Abernethy used to dwell with much force upon the curative powers of the constitution in cases of compound dislocation of the foot at the ankle-joint. He related three examples of this injury, which he treated successfully after condemnation to the kinfe by other and eminent surgeons. Had Mr. Abernethy's experience been greater at that period of his life, he would not have made these the only exceptions to a rule that requires far larger limitation.

Several years since, a boy was brought into St. Bartholomew's Hospital with his hand much crushed by a carding machine. The integuments were torn from the back of the hand, and the tendons exposed. The greater part of the palm was also denuded. The two first phalanges of the index and middle finger were dislocated, and the two others fractured, and all were more or less contused and blackened. The boy was aged about fourteen, and was healthy. I may say that I was somewhat urged to amputate the boy's hand. One thing was quite clear, there was no necessity for immediate amputation. I therefore, ordered the limb to be put on a single splint, after I had replaced as well as I was able all the dislocated structures. At the expiration of a fortnight the integument had all separated. Amputation was again suggested, but "respectfully declined." Had there been any danger to this boy's life, it had manifestly passed away. One by one the fingers came away, excepting the thumb, which was uninjured, and one joint of the index finger. I watched the gradual though slow development of new integument, which formed perfectly over the entire hand, and he left the hospital in five months with a most useful fragment of a limb, that he has since by education rendered subservient to many important duties in life.

In April last, a man, aged fifty-two, was brought into the hospital with dislocation of the left arm at the shoulder-joint, and extensive laceration of the integuments over the lower half of the forearm. The styloid process of the ulna was also knocked off. Three hours elapsed before I saw him. The character of the injury and the general aspect of the limb was such as, I thought, would justify amputation, upon other reasoning than such as influences my mind in the treatment of this and similar injuries. The arm had been reduced by my house-surgeon, Mr. Hodgson. There was no evidence of collapse or prostration. The structures were carefully replaced and covered with cotton-wool, and the arm was laid on a well-padded splint, and I determined to watch the course of events. A first and second week elapsed without any alteration justifying amputation. I fed the man well, gave him wine and brandy, and small but repeated doses of opium. The integuments sloughed largely on the back of the arm, but his hand was warm and healthy, and he had power of motion in his fingers. Granulations formed largely on the exposed surface. The man ate well and slept well. He had a good pulse, and no pain in the limb, and at the expiration of a month he appeared safe. The wound was now cicatrizing all round. In the fifth week he sank from some cause I could not ascertain, and died.

Possibly this case may be cited as favourable to the doctrines of immediate amputation. Who, let me ask, would not willingly postpone the removal of a limb on a guarantee of five weeks' healthy progress ?

A boy, aged twelve, sustained a severe laceration of the right hand. The integuments on the back of the hand were torn down, and the muscles of the thumb rent asunder. Nearly the same amount of injury affected the palmar surface. I determined to postpone amputation until it became imperative. The limb was placed on a splint, and covered with cotton-wool. The boy was thoroughly well nourished, and he has recovered, retaining a serviceable limb for life.

In all these cases, I am decidedly of opinion that amputation would have been resorted to but for my own greater reliance upon Nature than others around me, and this alone saved the two, while the third case can hardly be adduced as an exception.

It would be well for the cause both of humanity and of science, if it were possible to draw a definite line, which should determine the confines of reparative power; but it is the very impossibility of doing so which appears in some measure to justify so wide a range in the practice of different surgeons. That there is a line, obscure to our senses though it be, will hardly be disputed by any one who has deemed the fact worthy of remark how common is the resort to the knife in some districts compared with that of others. And the difficulty of decision is unquestionable, such is the complication of the requisite inquiry. Notwithstanding which, some approach may be attempted to a more general rule, founded on the nature and extent of the injury, than has hitherto guided the hospital surgeon in his decision, although the question of local injury will be subject to large modifications, founded on that of age, sex, the character, and condition of constitution of the affected person.

These examples may be divided into—first, such as *require* amputation ; secondly, such as *justify* amputation ; and, thirdly, such as neither *require* nor *justify* amputation. One word on the definition of the term "*justify* amputation." To justify may be not to give the reality, but the appearance only, of justice ; to obtain the sanction of the world. A man may obtain the warrant of general opinion while he fails to possess his own. He may be safe from comment or criticism, while he is amenable to denunciation *in foro conscientiæ.* By the term "justify," I mean that warrant in favour of the removal of a limb which is obtained from the consideration of an injury placed on the confines of necessity, especially if occurring in early life, in advanced age, or in impaired constitutions.

Of the structures entering into the composition of a limb, one and all of which are the subject of rupture or disorganization, the first importance perhaps justly attaches to the arterial system; but as universal experience teaches us that the channel of the main artery may be suddenly obliterated without danger to the vitality of the limb, so in the rupture of the main arterial trunk, evidenced by the pulseless condition of the limb below, the injury is, *per se*, no warrant for amputation. But if, superadded to the rupture of the main artery, the muscular system at the seat of injury is largely contused or ruptured, and the collateral channels for arterial as well as venous blood are involved in the injury, it is more than probable that the limb will quickly fail in nourishment, the indication of which is obtained from the loss of temperature. This loss, if complete, will become apparent in the course of an hour or two. But the loss is rarely complete, and several hours, or even a day, may be required to determine the affirmative of the mischief done on this evidence. But it is all-important evidence, and fully justifies the postponement of the decision.

Next in importance to arteries, and in close relation to them, stands the nervous system ; and in reference to injury to the chief nerve or nerves the same remark will almost apply. We do not amputate the leg because the sciatic nerve is rent asunder. The true principles of surgery would dictate a pause—a period for watching and observation. But as the rupture, whether of artery or nerve, is commonly a matter of uncertainty, we can only judge by consequences, and for these we should wait.

To justify amputation, from rupture or laceration of the muscular system of a limb, the injury must be very great, because the constitution does not sustain a shock in proportion to the extent of the injured surface, supposing the integuments to remain unbroken : but if the muscles be largely torn, and the investing integuments detached, and not susceptible of entire, or nearly entire replacement, I confess such an injury would justify a doubt as to the power of Nature to restore the parts to health. I speak of very large laceration, with contusion of muscle, coupled with separation of integument and extravasation of blood.

I do not concur with many surgeons, who deem exposure of the cavity of a joint an important element of failure. I am quite aware that it is so generally deemed, and I recal to my recollection the early part of my own professional life, when a compound dislocation of a joint alone was deemed a warrant for the amputation of a limb. But I can bear witness to many cases of recovery as regards the limb, and a few of recovery to the joint itself.

Undue importance appears to me to be attached also to fracture into a joint, as though such fracture, in reference to the retention of a useful limb, raised a serious obstacle to recovery. That it places the joint in jeopardy I readily allow, but I do not believe that the advocate for amputation in any given case can derive from its presence an argument of great force, although I do not deny that it should always be considered an aggravation of the mischief done. The same remarks will apply to fracture of the bone, especially if comminuted, when superadded to the larger injury of rupture of the main artery, or of the main nerve, extensive rupture of muscles, or laceration and disorganization of the integuments.

I have never yet observed much advantage to accrue to the patient from the introduction of the finger through an opening in the skin, which is employed as an explorer, and carried round in all directions, for the purpose of ascertaining the nature and extent of the injury done. I have never, myself, acquired much knowledge by this process, which could be rendered available to the service of the patient, nor have I known it to be obtained by others. To the patient himself, so far as he is entitled to an opinion, it has always appeared to be positively objectionable. To be sure, it gratifies curiosity, though at some expense of suffering.

Finally, in all doubtful cases, I would give the benefit of the doubt to the patient, and endeavour to restore the limb. If, consequent on a large injury to the leg or thigh, upper arm or forearm, the foot or hand lose their natural warmth, amputation is the only resource. If we find extensive laceration of muscles, with extensive separation of integument, and especially if the integument be disorganized and insusceptible of replacement, I fear we must amputate, even without waiting for the above evidence of loss of vitality in the extremity; but, in a subject moderately healthy, I do not consider that any degree of comminution of bone or laceration of muscles, unless very extensive, any fracture into a joint, or compound dislocation of a joint, can justify the abandonment of the case, so long as the structures are capable of some general replacement, and the patient can submit without suffering to the restraint necessary to his recovery.

Grosvenor-street, November, 1856.

REPORT OF THREE SUCCESSFUL CASES OF WUTZER'S OPERATION FOR THE RADICAL CURE OF REDUCIBLE INGUINAL HERNIA.

By Chas. Vaudin, Esq., M.R.C.S., Jersey.

Case. 1.—Monsieur le T——, aged forty-two, consulted me for an oblique inguinal hernia of the left side, which caused him much inconvenience. Upon examination, I discovered a strong tendency to the same affection on the right side. Being a remarkably healthy person, of temperate habits, I recommended Wützer's procedure to him, he being extremely anxious to be radically cured of this affection.

A brisk purgative of calomel and jalap having been given to him two days previously, on the 12th of May, the instrument was introduced, the plug coated with firm grease, and all the hair on the part to be invaginated plucked away. The needle was not protruded before I had the plug firmly in the canal, and, in so doing, I managed to transfix the internal pillar of the external ring, or the structures immediately behind it, so that I was quite sure the integumental plug might be firmly opposed to the parts until it fairly adhered to them.

The patient kept his bed eight days, during which time I removed the plug once, wiped it, and applied fresh grease, and returned it. The pressure of the instrument he regulated himself according to his feelings, so that he always felt it comfortably firm. Not a single unpleasant symptom occurred.

On the ninth day the instrument was removed; a compress of oiled lint and a T-bandage was applied. He sat up the three following days a few hours each day, and then gradually resumed his former habits.

On the fourteenth day, the wound made by the stylet was quite healed; he preferred the bandage to a truss, and it was applied every day up to the twenty-eighth, when, the parts being so firm and well consolidated, the impulse on coughing being no more perceptible than in the normal condition, I enjoined him to wear a suspensory bandage, and to abstain from any exercise demanding extraordinary respiratory efforts.

Up to this period (Sept. 2nd) he is, as well as myself, perfectly satisfied with the results of the operation, and wishes to be operated upon on the other side, even before the hernial descent is complete, a proceeding I have of course advised him to leave until circumstances render it more requisite.

At the request of my friend, Mr. G. M. Jones, I append the two following cases, he having kindly furnished me with his notes of them.

Case 2.—N. N——aged thirty-six, a labourer. Had inguinal hernia of the right side of eight years' standing, caused by lifting a heavy weight. He was a man of very intemperate habits. He had occasionally worn a truss, but only for a few days at a time. Trusses given to him by institutions were always sold in a few days, to procure drink. He was operated on January 5th, 1856. The instrument was removed on the ninth day. He remained in hospital six weeks, and wore a truss during that time. He was seen for the last time two months ago, and was then quite drunk. He sold his truss the day after his discharge, and had not worn one since. He was examined then, and anxious to prove how well he had recovered, nothing would satisfy him but coughing as loud as he was able, and jumping from a shop counter on his feet; this he did several times.

Case 3.—Thomas G——, aged fifteen, a Canadian; oblique inguinal hernia, two years. Operated on the 1st of April, 1856. The instrument remained in eight days, followed by no unpleasant symptom. The patient was heard of two months ago, and was then pursuing the active duties of a cabin boy, and wore no truss.

The paper, by Mr. Wells, in the "Medico-Chirurgical Transactions," vol. xxxvii., affords information to those desirous of testing the merits of this new proceeding. In conclusion I will add, that it has struck me in my observation of these three cases, that only just sufficient pressure should be applied, by means of the upper plate and screw, to keep the parts in close apposition. undue pressure not only gives severe pain, but produces a retardation of the union process. I would suggest also, the liberation, by incision, of the margins of the invaginated integument, including the dartos and cremaster; the action of these, even independent of that of the other perineal muscles, in ordinary and extraordinary respiratory efforts, seems to have a tendency to draw upon the integumental plug; hence I am led to think this liberation might be an improvement; and mean to give it a trial. Adhesion of the parietes of the plug might also be a desirable occurrence, and this could be effected by the actual cautery, or the chloride of zinc.

Mr. Coxeter kindly modified the instrument for me in the following way:—The needle, or stylet, was strongly gilt to prevent its corrosion, and its extremity eye'd to allow of its more secure fixture to a cork. The handle was also made to unscrew, so as to prevent its entanglement in the patient's dress, or in any movements.

St. Helier's, Sept. 1856.

ON THE REMOVAL OF GOUTY DEPOSIT.

By William Thorn, M.D.

A female patient of mine, once highly hysterical, having been the frequent subject of that species of paralysis, became at forty-seven years of age, a complete martyr to gout in one elbow and both hands, the deposits being so large that they interfered most seriously with her sewing and domestic avocations. I gave her liquor of potassæ, 20 minims, three times a day, in water; and spirits of nitric ether, 20 minims, three times a day, in water also. These remedies, however, were given alternately, so that the surplus urea should be combined with the potash given as one dose, and eliminated by the nitric ether given as the other. This plan being persevered with for about two months, answered most completely, the gouty deposit having steadily disappeared; a curious effect of the treatment being, however, that the doses ordered were found far too large, the patient being only really benefited when each remedy was reduced to five drops only for a dose. This was done because the twenty, fifteen —nay, even the ten drops, produced sickness or headache, just as the potash or nitric ether was given.

This case goes to illustrate that gout, or some analogous blood poison, was the cause of hysteria in the female while young; the confirmation of this view being, that, after the grand climacteric was passed, gout was developed in a violent degree. This doctrine has been already demonstrated by Dr. Laycock in his truly philosophical work on the "Nervous Diseases of Women."

Harrow-road, Sept. 1856.

ON A CASE OF POISONING BY STRYCHNIA AT THE GENERAL HOSPITAL, JERSEY.

By G. M. Jones, Esq.,

surgeon to the hospital.

Jane D——, the unfortunate female whose recent death was accidentally occasioned by taking strychnine pills, had been for some time employed as one of the under-nurses at the hospital. She was twenty-two years old, short, fat, and remarkably thick-set, of very ruddy complexion, with short neck and high shoulders, of scrofulous habit and nervous temperament. Lately she complained of occasional dyspnœa, probably the result of a sharp attack of pneumonia she suffered from at the latter end of June last, and which required very energetic treatment to subdue.

On the 24th of August, at half-past eight P.M., I found her apparently in the enjoyment of perfect health, and assiduously engaged at her duties, for which her kindness of disposition and great attention eminently qualified her. It appears that shortly afterwards she complained of nausea and sickness, which led her to leave the ward, and that on her return she brought four bilious pills, as she stated them to be, and which had been given her by one of the inmates. These she took at half-past nine, immediately before getting into bed. Twenty minutes afterwards, she was heard to moan piteously, and almost simultaneously uttered a loud shriek. The patients (three in number) whom she had the care of were physically unable to obtain assistance: one having lately had the hip-joint excised; the other her knee; and the third laboured under paralysis of the lower extremities. A succession of paroxysms, attended with increased cries, at length attracted the attention of the head-nurse and others, who came to her assistance, and she was at once carried into an empty ward. There the attacks continued with such severity, that the nurse who first looked upon them as hysterical, became alarmed at their intensity, and sent for me. On entering the room (it must then have been half-past eleven) I was told that, as a longer period had elapsed without a spasm than had hitherto been the case, I might expect to witness one immediately. I waited for this purpose over half an hour, but none occurred, nor did I perceive any tendency whatever to convulsions. The girl's appearance was as usual, also her voice, nor were her features altered, or in the least attenuated. The pulse was more rapid than natural, and the temperature of the body higher. She only complained of past sufferings, not of present pains; and on my repeatedly asking her how she felt, her answer was "better, much better; I think I shall soon be well and able to sleep." She asked for drink, and tea was given, which she swallowed without any apparent effort. While with her, I interrogated the girl who had supplied the pills, and she acknowledged having, a fortnight before, abstracted six from a bottle placed in a corner of the surgery, while waiting for medicine which was then being prepared for the sick; that she took two the same evening without feeling greater discomfort than she had often before experienced after taking medicine; and that as Jane D—— complained of great pain in the stomach and chest, she advised her to take the remaining four, and gave them to her for that purpose. After this candid avowal, I requested her to accompany the person who is in the habit of dispensing the medicine, into the surgery, in order to point out the bottle from which she had taken the pills. She did so; and, on their return, I was told by the employé, that he had tasted one, and that they were composed of "bitter aloes," were in an unlabelled bottle, and had been placed there before he came to the establishment.[*] After ordering a dose of castor-oil, which was at once given, and writing a receipt for an antispasmodic draught, to be taken if the spasms returned, I left the hospital; and it appears that, shortly after my departure, the convulsions returned, and continued, with but slight intermission, until death terminated her sufferings. The unhappy girl retained her faculties to the last, and appears to have had a frightful rigidity of the limbs, accompanied by opisthotonos, also a dreadful sensation of choking; and it was while uttering the words expressive of this feeling, that she expired, at half-past two o'clock—just five hours after taking the pills.

It must ever be a cause of regret to me that I was not again made acquainted with this patient's condition; it was an unpardonable neglect on the part of those who witnessed her extreme sufferings. It is more than probable that no effort of mine could have warded off the effects of this deadly poison; still, had I been present, it might have enabled me to enter into the various symptoms which followed each other, the different changes which may have taken place, together with other points of interest; it would also have enabled me to test on the human body those means which some eight years ago I tried on animals, and which left on my mind, if not a positive conviction, at all events a strong belief, that it is in our power to counteract a poisonous dose of strychnia by that which in itself would prove equally fatal. Further experiments shall be tried, and may probably form the subject of a future communication.

Post-mortem Examination.—External appearances fourteen hours and a half after death.—The whole surface of the body was of a deep livid colour, the arms and neck especially, the most dependent parts of which were almost black. The anterior parts of the abdomen and legs were less discoloured. The general expression of the face was that of a person who had been strangled or suffocated. The eyelids were puffy and œdematous; also the scalp and face. The conjunctivæ were injected. The neck, chest, and upper arms partook of this general œdema. The abdomen was very tense and tympanitic on percussion. The rigor mortis had subsided in the upper extremities, but still existed in the lower. The spine was arched. The soles of the feet were flat and natural; the position of the latter was the same. The fingers and thumbs of both hands were firmly clenched, except the index fingers, which were extended and pointing downwards. The arms were extended along each side. The symmetry of the body was natural. The teeth were firmly set, the jaws were rigid, the tongue protruded partly, the gums bloodless, and the lips puffy and livid. Much bloody froth issued from both nostrils. Both corneæ were opaque and dull; the pupils semi-dilated.

Internal Appearances, fifteen hours after death.—Much blood escaped on cutting through the scalp, and the oozing from the surface of the skull was unnaturally great. The vessels of the dura mater were much congested; the sinuses also. Some opacity of the arachnoid and pia mater was noticed, and the former was upraised by a rather thick, yellowish serum. The cerebral substance, both cortical and medullary, was much softened, and the puncta vasculoso very numerous. The ventricles contained rather more than the usual amount of serum. The spinal canal was filled with bloody serum; the proper vessels of the vertebræ were very prominent and congested, those on the anterior aspect of the arches quite as much as those on the posterior. The spine was opened immediately after the body was turned. The spinal membranes were of a bright scarlet, and seemed everywhere highly injected; the vessels coursing over the medulla oblongata were especially numerous, very tortuous, distended, and of a bright-red scarlet; this organ and the cord itself were less softened than the brain, but still abnormally so, and on close examination I thought the anterior columns were, if anything, more softened than the posterior. The cord partook of the general pathological character of the medulla, being soft and highly vascular. In the part corresponding to the dorsal region, its posterior aspect, a clot of blood, semi-fluid, covering a surface an inch and a half in extent, was found under the membranes. The convulsive movements were noticed by the nurse as occurring chiefly on the right side, and in the convulsion which preceded death the right arm was thrown forcibly across the chest, and remained there. Especial attention with reference to this phenomenon was paid on the examination of the nervous centres; but, with the exception of greater turgidity, and injection of the left choroid plexus, nothing was found to account for it. The stomach contained about a pint and a half of semi-fluid, half digested food, composed of débris of meat, bread, potatoes, and fruit. Nothing beyond the ordinary appearances during digestion was noticed in its coats. The duodenum and jejunum appeared red and congested, but no traces of inflammatory action were perceived. The liver was large, congested, and in an advanced stage of cirrhosis; the gall-bladder contained about an ounce of bile. The kidneys were congested, the medullary structure in particular. The pericardium contained about an ounce of clear serum, of the natural colour. The heart was large, flabby, and collapsed; its muscular coat was greasy. The large blood-vessels and auricles were remarkably devoid of blood; the little they did contain was quite fluid, and stained their coats; it was very dark. Both ventricles contained each a clot of dark colour and semi-fluid; each clot weighed about a drachm and a half. The lungs were voluminous, and filled the cavity of the chest; the posterior lobes were much congested; the bronchi and trachea were filled with bloody froth. The blood which escaped in cutting through their coats was quite fluid and very dark. This was the general character of the mass throughout the body. The muscles were of a rich red colour, exuded blood when cut into, and yielded it abundantly when squeezed. The bladder contained nearly a pint of bright, amber-coloured urine, of natural appearance.

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[*] I cannot account for the unlabelled bottle containing the pills in the surgery, as I have never allowed strychnia, in any form, to be kept there. When necessary, I have invariably had the prescription made up at the chemist's who is in the habit of supplying the hospital with medicine: they are then given to the head-nurse, who keeps them in his own room in a desk, under lock and key. It is now more than a twelvemonth since the then head-nurse died; and it seems probable that those who were employed to clear his cupboard, desk, &c, &c., removed this bottle into the surgery.

Chemical analysis, thirty hours after death.—The process recommended by Messrs. Rogers and Girdwood, in a former number of The Lancet was gone through. Separate portions of the residue thus obtained were tried with bichromate of potash, with peroxide of lead, and with peroxide of manganese. All yielded the characteristic violet colour, less evanescent with the peroxide of lead than with the other two.

Nitric and sulphuric acids gave flashes of a blood-red colour, but not persistent.

The chloroform solution, evaporated to dryness on a thin glass plate, yielded a very minute crystalline mass, only visible as crystalline by a strong double lens. Under the microscope, it was composed of crystals, arranged in acicular tufts, radiating from a centre, there oblong plates with dihedral summits, and several globular amorphous masses. An alcoholic extract was also prepared from the decoction made with dilute hydrochloric acid, and this yielded, when evaporated on a watch-glass, a rather gummy, tenacious mass, which, under the microscope, presented star-like crystals, with their radii rounded. Both these masses, touched with a rod moistened by acetic acid, were dissolved in a few drops of water, and administered to a small toad. Several convulsions were produced, decidedly tetanic, resulting in death after about twenty minutes. The galvanic test described by Dr. Letheby in a former number of The Lancet was also tried, and with a successful result. The reactions with perchloride of platinum, and with the iodide of potassium, on the acetic solutions, were also characteristic. The stomach was cut in pieces, and one half digested in alcohol, acidulated with hydrochloric acid, and boiled for two hours; then the liquid prepared and tested according to the process before mentioned. The other half was treated with water, acidulated by hydrochloric acid, and subjected to the same processes. The colour and galvanic tests yielded positive results with both.

In the experiments upon animals with the material composing the pills, rabbits and frogs were found to show the phenomena of strychnia-tetanus perfectly; but in point of delicacy and susceptibility to the action of the poison, I give decided preference to small toads. Five were killed by it, and they exhibited the phenomena, not only for a longer period, (twelve hours in two instances,) but were almost immediately affected by doses which it took half an hour to produce convulsions in the frog. Their movements were more lively, the tetanoid spasms were brought on again by sounds, when they had ceased for awhile, and although no accurate notes of the doses, period of action, duration, and death were made, yet, in every respect, I am inclined to look upon small toads as eminently strychnoscopic.

I may shortly publish a series of experiments, showing the minimum dose required to render these animals indicators of the presence of strychnia.

An analysis of two of the pills identified as being of the same kind as were taken by the deceased, yielded, by the chloroform separation process, nearly one quarter of a grain of almost pure strychnine, in the form of acetate, and possessing all the characteristics of this salt; hence we may assume that half a grain of commercial strychnia had caused death.

I cannot conclude the history of this case without stating that at the post-mortem examination, and more particularly during the analysis of the contents of the stomach, I received the greatest assistance from my friend, Mr. Vaudin, surgeon of this place.

St. Helier's, September, 1856.

A Mirror
OF THE PRACTICE OF
MEDICINE AND SURGERY
IN THE
HOSPITALS OF LONDON.

> Nulla est alia pro certo noscendi via, nisi quam plurimas et morborum, et dissectionum historias, tam aliorum proprias, collectas habere et inter se comparare.—Morgagni. *De Sed. et Caus. Morb.* lib. 14. Proœmium.

UNIVERSITY COLLEGE HOSPITAL.

Injury to the Head of a Child, with Wound of the Scalp, from Wheel of a Cab; Erysipelas; Convulsions, followed by Hemiplegia; Compression of the Brain; Application of the Trephine, with Evacuation of Pus; Death and Autopsy.

(Under the care of Mr. Erichsen.)

About three weeks ago, we were present at the Pathological Society, when Mr. Pollock, of St. George's Hospital, exhibited the leg of a little boy, which had been completely torn off above the knee by the wheel of a cab, the little fellow surviving only forty-eight hours. To-day we record an instance of an injury from the same cause —a cab-wheel striking another male child, aged, five years, ultimately proving fatal. So frequent are these accidents amongst children in the streets of London, and generally fatal in their results, that we may look upon them as a recognized form of injury, causing much distress and anxiety to both parents and surgeons, and yet we see no possibility of preventing their occurrence.'

The details of the subjoined case, for which we are indebted to Mr. D. B. Reid, jun., the late house-surgeon to the hospital, possess a good deal of interest, and are instructive, as beautifully illustrating cause and effect, and showing, moreover, by careful reasoning and the study of symptoms. how a diagnosis may be arrived at, which is confirmed by the measures adopted to afford relief. We would draw the attention of students especially to this case. A certain set of symptoms are present which show serious mischief in the brain, depending upon the effusion of fluid between the skull and membranes, producing convulsions, which are followed gradually by paralysis of the opposite side of the body, affecting the arm first, and then the leg in a day or two after, having the seat of injury to guide us as to the seat of effusion. The use of the trephine, followed by the evacuation of much pus, did not afford the relief that might have been anticipated, as the dura mater was found much inflamed and bulged out. The convulsions did not cease, as they depended upon the softened and pulpy condition of the brain beneath the wound, as seen after death, the autopsy revealing the causes which allowed of the persistence of the fatal symptoms after the operation.

David L——, aged five, was admitted on the 24th of June, 1856. On the 18th of June, the right side of his head was injured by the wheel of a cab, which tore off the scalp for an extent of about two inches and a half; in one spot, the pericranium was also removed. The wound was situated near the vertex, but on the right side of the middle line. The boy was treated as an out-patient, strapping and water-dressing were applied, and a purgative was given; every day he was brought to the hospital. On the 24th of June, the wound being sloughy he was admitted as an in-patient. For a few days after admission, the boy went on very well; he was up every day, and running about the ward.

July 1st.—The scalp is affected in its entire extent with erysipelas; the eyelids are so swollen that one eye is completely, and the other almost, covered over. The wound is unhealthy, and the bone exposed. Slight tendency to delirium. Middle diet; milk, a pint.

7th.—The exposed bone in the wound has turned very dark in colour. The patient otherwise is doing well; the erysipelas has subsided, and the swelling is going down.

11th.—Exceedingly irritable; cries out while asleep; had a fit of convulsions during the night, and lost the use of the left arm.

12th.—Very restless, and more irritable. Small doses of mercury-with-chalk and Dover's powder were ordered.

13th.—Screaming and crying during the whole night, and also has had several convulsive attacks; little thirst; small appetite; cheeks flushed; eyes usually closed; left upper extremity still paralyzed; left leg drawn up; right extremities not affected; little discharge from the wound; the exposed bone is quite black in colour.

14th.—Is in a semi-comatose condition; has lost the use of both left extremities, but there is no paralysis of the right side; while the muscles of the right side of the face are in a state of convulsive twitching; is pale and exhausted, occasionally screaming; thirsty. Mr. Erichsen concluded, from these symptoms, that the child was suffering from pressure on the brain, due to suppuration within the cranium, and most probably situated between the dura mater and the bone. He therefore resolved to perforate the skull; and at three P.M., removed a circle of the discoloured bone by a trephine. While proceeding cautiously with the perforation, the groove made by the trephine became suddenly filled with thick pus, which spirted out with considerable violence. After removing the piece of bone, about three drachms of pus was evacuated from between the dura mater and the bone. The dura mater was found inflamed and injected, and was sensibly bulged out through the aperture. In its exposed surface, there was a small ulcerated aperture, through which a small amount of clear serous fluid escaped from the cavity of the arachnoid. After the operation, the child was removed to bed, and cold-water dressing applied.—Ten P.M.: Pulse 120; partially conscious; paralysis undiminished; frequently crying for food and drink, but will take neither when given.

15th.—Much exhausted. Pulse very quick and feeble; cannot be counted. General convulsions very frequent. He is perpetually picking his nose, his right eye, and the bed-clothes, with his right hand; frequently pulling the penis about. Sensible to touch on the left side of the body. Left eye open and staring vacantly; conjunctivæ insensible. Right eye is closed, but the mucous membrane is sensible. Urine passes involuntarily. —Half-past twelve, P.M.: Slightly improved. Pulse 150, irregular. Has taken some beef-tea. —Four P.M.: Twitchings of both sides of the face, most on the right side. Has not spoken nor made any noise for the last three hours. Respirations 50 a minute.—Half-past six: Pulse imperceptible. Occasional starting of the right arm.— Died at twenty minutes to seven P.M.

Post-mortem examination, twenty-three hours after death.—July 16th,—The interior of the cranium swelled with pus lying between the bone and the dura mater. The portion of dura mater opposite the opening in the skull made by the trephine is softened, and from an opening in its centre some thin fluid escapes. The dura mater being removed, a small quantity of lymph is found on the arachnoid. The cerebral substance beneath the point of injury is somewhat softened. On further examination, the posterior half of the right hemisphere is found in a soft and diffluent condition. The arachnoid covering the left hemisphere opposite the seat of injury is found somewhat thickened. The substance of the left hemisphere is perfectly healthy. On removing the brain, a quantity of purulent-looking lymph is found in the subarachnoid space. A layer of pus is found between the dura mater and the skull in the middle fossa, and the inflammation is found to have continued down the cord. The viscera generally are quite healthy. No tubercle in the bronchial or mesenteric glands.

KING'S COLLEGE HOSPITAL.

Cholera and Choleraic Diseases admitted during the last Fortnight, treated successfully by repeated Doses of Castor Oil, Effervescing Draughts at intervals, and occasionally Brandy.

(Under the care of Dr. George Johnson.)

The Registrar-General's Return for the week ending August 9, shows twenty-eight deaths under the head of cholera, but which were made up of summer cholera, infantile cholera, and choleraic diarrhœa. This number included twenty-one children under ten years of age. On carefully analysing the details of all these (which are given in the Return), we cannot say there is a single instance of true Asiatic cholera. To be sure we find three cases returned *cholera* in patients aged fifty-eight, sixty-one, and eighty years of age; but, contrasting them with the others, no other conclusion can be come to than that they were cases of ordinary English cholera, of which we record a good example to-day. In this opinion we are supported by the authority of Dr. Snow. In the same return we find 211 deaths from diarrhœa. Now, in every hospital and dispensary in London, during the last fortnight, there have been a prodigiously large number of cases of diarrhœa demanding relief; it was certainly epidemic, and that some of the cases should lapse into English cholera, was to be expected; but we hope we are correct in believing that the Asiatic form of the disease has not visited us this season, and what strengthens us in this opinion is the amenability of all these cases to judicious treatment. We give five cases of cholera and choleraic diarrhœa as examples, occurring in the wards of this hospital within the last two weeks, ending in recovery, and for which we are indebted to the courtesy of Mr. John Way, house-physician to the hospital. All were treated by the exhibition of castor oil in repeated doses, with, occasionally, brandy (in the first case), and effervescing draughts at intervals. The first of these possessed well-marked symptoms of cholera. No urine was passed until the fourth day, and only in small quantity; it contained casts of the uriniferous tubes, dotted with epithelial cells. A recovery was established on the tenth day.

Case 1.—*Cholera; Rice-water Purgings; Collapse; Recovery.*—H. B——, female, aged thirty-seven, living in Bennett's court, Drury-lane, admitted into ward No. 7, Aug. 6th, 1856, about midnight. She has been living on a scanty vegetable diet lately, but had been free from ailment, and had taken no unwholesome food during the week preceding her present attack. About midday on the 6th she was suddenly seized with purging and severe pains in the bowels, the evacuations fluid and light coloured. About nine o'clock P.M. vomiting came on (following the administration of about half an ounce of brandy); and there was then relief to the pain and purging. About twelve o'clock, however, the symptoms again became aggravated, and the patient was brought to the hospital. On admission, the extremities were cold, features pinched, eyes sunken, and the whole face dull-looking, and leaden as to colour; pulse 90, very small and feeble; respiration 32; voice low and weak; vomiting and purging profuse and frequent; evacuations from the bowels of the rice-water character, and containing no trace of bile; urine suppressed; pains in the abdomen frequent, and at times agonizing; occasional cramps in the extremities. To take half an ounce of castor oil immediately, and two drachms every hour subsequently. Apply hot bottles to the feet, &c.

Aug. 7th.—Nine A.M.: pulse 96; respiration 30. The bowels have been relieved seven times since admission, the first six evacuations rice-watery in character, the last contained a trace of bile; has vomited once; no urine passed; extremities warm; face still pinched and leaden-looking, and eyes sunken, but the patient less ghastly of aspect than on admission. To take two drachms of castor oil every two hours.—Twelve at noon: Pulse 96; respiration 32; no vomiting; has been purged three times since nine o'clock; motions contain bile; extremities warm. Omit oil. Ordered, brandy, four ounces, in twenty-four hours; and effervescent draught every six hours.—Eight P.M.: Had been quite comfortable up to this time, but there was then some return of pain and cramps; the temperature of the extremities fell; the tongue especially was cold at the tip; and the eyes became more sunken. To have half an ounce of castor oil every hour.

8th.—Ten A.M.: Has been purged four times, and vomited twice since eight o'clock last night; all the signs of returning collapse have disappeared. Ordered, castor oil, half an ounce, every two hours. To have milk diet and beef-tea.—Two o'clock P.M.: Pulse 92; respirations 28; purged twice since ten o'clock; motions contain bile; no urine yet passed since admission. To leave off the castor oil. To have an ounce and a half of effervescing draught three times a day.

9th.—Eleven A.M.: Pulse 92; respiration 30; purged five times in the last twelve hours; has vomited once; passed urine to-day in small quantity, and exhibiting pale and small waxy casts of the uriniferous tubes, dotted with groups of epithelial cells.

10th to 15th.—Pulse varied from 84 to 92; respiration from 28 to 37. On the 10th, the bowels ceased to act with unusual frequency. Occasional doses of oil were given, to produce gentle action. The evacuations were, during these five days, of natural colour, and the urine gradually reached the normal amount. The face became less pinched and lead-coloured, and the eyes less sunken. The patient complained only of an occasional sense of faintness; and, on the 15th inst., she was discharged cured.

CASE 2.—*Choleraic Diarrhœa; Recovery.*—R. E——, male, aged thirty-seven, a coach plater, of temperate habits; very nervous; no specific ailment until the day of admission; had taken a Seidlitz powder that morning, on account of some giddiness of head; took no indigestible food in the course of that or the preceding day. He was seized, about one P.M., on the 9th of August, with sickness and pain in the bowels. He took some brandy-and-water, and at two P.M. began to be purged about every half-hour, and to vomit as frequently; became cold and benumbed at the extremities. Admitted into ward No. 4, at seven P.M., on the 9th of August. He was then suffering excruciating pain in the bowels; face pale; hands, feet, and tongue cold; no cramps; no marked sinking of the eyes; pulse 96, steady, but feeble; respiration 48. To take twenty grains of powdered ipecacuanha immediately, and encourage vomiting by hot-water draughts. Apply hot bottles, &c. To take half an ounce of castor oil every hour.

August 10th.—Nine A.M.: Pulse 90; respiration 36. Has vomited twice and been purged four times since admission; evacuations contain plenty of bile. Pain and coldness have disappeared. To discontinue castor oil, and take an effervescent draught every six hours.—Nine P.M.: Pulse 75; respiration 25. Bowels relieved twice since the morning; stools natural. No pain, coldness of extremities, or cramps.

11th.—Discharged cured.

CASE 3.—*Choleraic Diarrhœa; Recovery.*—A. V——, female, aged thirty-two, living at No. 4, Clare-market, was admitted into Victoria ward at half-past one A.M. on August 14th. The patient says she was in good health up to the 12th inst., when, without having recently taken unripe fruit or other unwholesome food, she was seized with vomiting, which recurred frequently during the next two days. On the 14th, the bowels, which up to that time had been constipated, began to be purged; motions dark; no cramps, but much pain in the abdomen; urine scanty and high coloured. On admission she was unable to stand without help; complained of intolerable pains in the bowels; tongue and hands cold; face pinched and pale. No marked sinking of the eyes; no cramps; pulse 84; respiration 48. Ordered twenty grains of powdered ipecacuanha at once, and half an ounce of castor oil every hour; hot bottles to the feet and stomach.—Nine A.M.: Pulse 90; respiration 36. Is warm, and the abdominal pains less severe and frequent than on admission. Purged six times; vomited once; evacuations greenish and liquid. Ordered half an ounce of castor oil every two hours; milk diet, with beef-tea. One P.M.: Pulse 84; respiration 28; purged four times. To leave off the castor oil, and to take an effervescing draught every six hours.—Ten P.M. purged four times; no vomiting. Is quite warm and free from pain. Tongue pale and furred; pulse 75; respiration 32.

August 15th.—Ten A.M.: Purged four times during last night. Had a slight return of griping pain about four o'clock. Ordered half an ounce of castor oil immediately. After this there was no pain, and on the 16th she was discharged cured.

CASE 4.—*Constipation; Vomiting; Purging after Castor Oil; Recovery.*—A. Q——, female aged seventeen, living in Bennett's-court, Drury-lane, admitted into ward No. 7, on August 14th, at ten P.M. Subject to frequent bleedings from the nose, but otherwise in good health until the present attack. Bowels constipated from the 11th instant until admission into the hospital. On the 13th she ate some cucumber, and on the 14th was seized with vomiting and griping pains in the abdomen; the matters ejected were frothy and colourless. On admission, pulse 112; respiration 54; hands and tip of the tongue cold; face very pale and pinched; eyes not sunken; tongue white and furred; breath cold; slight cramps of the limbs. Ordered hot bottles to the feet and epigastrium, half an ounce of castor oil by the mouth every hour, and an enema of castor oil, one ounce in two pints of warm water, at once.

August 15th.—One A.M.: Pulse 102; respiration 24; skin warm and moist; suffers a good deal of pain in the belly. Has had two copious dark-coloured stools; has not vomited. Slight cramps at times. Ordered milk diet and beef-tea. Twelve at noon: Bowels relieved seven times since one A.M. Is quite warm and free from pain. Discontinue the oil, and take an effervescing draught every six hours.

16th.—Discharged cured.

CASE 5.—*Choleraic Diarrhœa; Recovery.*—E. J——, female, aged sixty; no fixed residence; admitted into Victoria Ward, August 15th, 1856, at 5 P.M. Has been ailing for a month past; is much constipated. Three days before admission she began to vomit and to be frequently purged. No history of unwholesome diet. Passes a good deal of blood with the motions; suffers from prolapsus uteri; and passes blood per vaginam. On admission, pulse 96, feeble; respiration 30. Complains of excruciating pains in the bowels; hands cold; no cramps, no sunken eyes, or other signs of collapse. Ordered twenty grains of powdered ipecacuanha immediately, and half an ounce of castor oil every two hours. Ten P.M.: Bowels relieved twice; vomited once; pain much relieved; pulse 100; respiration 32; tongue furred; not cold. Evacuations dark and streaked with blood. No tenesmus; no cramps; urine not scanty. Oil discontinued; to take, instead, an effervescing draught every six hours.

August 16th.—Pulse 90; respiration 24; free from pain; bowels relieved three times in the last twenty-four hours; no vomiting. Ordered milk diet with beef-tea.

17th.—Discharged cured.

CENTRAL LONDON OPHTHALMIC HOSPITAL.

Falling of the Upper Eyelid or Ptosis, as an Effect of Paralysis of the Chief Motor Nerve of the Muscles of the Orbit; Conditions forbidding Surgical Interference; Case illustrating when Practical Surgery is admissible. Congenital Ptosis as contrasted with the above. Result of Operations on both Eyes symmetrically affected.

(Under the care of Mr. Haynes Walton.)

A distinction has been made between drooping of the eyelid, although to an extent that the pupil is concealed, and that falling by which it is in actual contact with its fellow. It would not be difficult to prove the superiority of including in the term ptosis, any degree of dropping from whatever causes, and there are several of them. Indeed under any other arrangement there must necessarily be much confusion and complication in description. The subject is full of interest, physiologically, medically, and surgically; but in the present instance, however, we intend to confine ourselves to what relates only to the practical surgery of it, so far as is required in two very distinct states—ptosis the result of paralysis, and as a congenital malformation. We venture to premise a little respecting the distribution of the third nerve, which is here so much concerned. It supplies the levator palpebræ, the superior, inferior, and internal recti, and the inferior oblique muscles, and, through the lenticular ganglion, the iris.

In the large majority of cases, paralysis of the third nerve is the cause of the lid-drop, and therefore when it alone is affected, with inability to raise the eyelid, the patient cannot move his eye upwards or downwards or inwards, and as the external rectus supplied by the sixth nerve is unaffected, the eyeball is turned outwards. Besides, the pupil is fixed and more or less dilated. In this state of things, when the lid is raised, and both eyes are used, vision is double and indistinct. When the sound eye is closed, objects do not appear double, but still indistinct. Now, it is obvious that, so long as one eye is affected, and the other not similarly implicated, an operation is inadmissible. The cases in which it may be undertaken, of course only after the power of medicine is unavailing, are those in which the levator palpebræ only is paralysed, the other muscles of the orbit being intact, which is rare, or where the patient has double ptosis, or but one eye, and that affected.

A miserable-looking needlewoman, aged twenty-six, applied at the hospital to be relieved from the deformity caused by falling of the eyelid of the left eye, and the hindrance to vision that it occasioned. Nearly the entire cornea was covered; hence the eye was virtually useless. The levator palpebræ was the only muscle affected, for the eyeball could be used freely, nor was the pupil unnatural. When the eyelid was raised, vision proved to be excellent; and there was no double sight.

The history was very unsatisfactory; we could merely learn with certainty that at a period probably six years previous, this eye was in all respects like the other, and by a sudden attack the eyelid fell into complete ptosis. In all probability the whole of the third nerve had been implicated; but this could not be ascertained. The only additional fact gleaned was that, after treatment, the eyelid so far recovered that it raised so as to discover a slight portion of the cornea.

Mr. Walton pointed out the peculiar favourableness of the case for operation, especially as the patient could, with some effort, exercise a degree of volition, although slight, on the levator palpebræ, independently of the secondary effect of the occipito-frontalis; and as there was not, at this period of the case—nine years since the eyelid had got to its present position—any other hope for further improvement.

The principles of the operation, and certain essentials necessary for success, are so well and concisely expressed in Mr. Walton's work, that we quote his own words:—"The remedial measure is simple; it consists in taking away a portion of the palpebral skin, the extent of which should be determined according to the class to which the case belongs. Where there is partial loss of power, the removal of a portion of skin, merely to tuck the lip up, is sufficient; where the levator palpebræ is motionless, or nearly so, the lid must be brought under the influence of the occipito-frontalis, to supply its movements, and for which it must be more shortened than in the other instance, by the loss of a much larger bit of skin. Under one or other of these must all cases of ptosis fall which can be remedied by operation. To ensure success there should be integrity of the orbicularis palpebrarum, for it is called upon to exercise exaggerated power to overcome the defect occasioned by the shortening of the lid, and the closure of the eye being principally effected by raising the lower eyelid above the ordinary level to meet the upper. Without that the lids would be more or less permanently open, and the eyeball exposed. Besides the difference of circumstances in the two kinds of cases to guide us in the amount of skin to be removed, and the varying degrees of the depression, or falling of the lids, in these classes, the conditions of the skin itself must be taken into account, whether it is unnaturally thickened, or healthy, or loose or baggy. Of kindred importance also, is the state of the lower lid, whether lax or tense, and the usual action of the occipito-frontalis of the individual, for, in some persons, it seems motionless, while in others, its contractions are as remarkable. From inattention to these points must be attributed the unsatisfactory results that are sometimes said to attend the operation. The portion whence the slip is to be taken should be as near the edge of the orbit as circumstances will permit, or else the edge, rather than the body of the lid will be influenced. The dissection should be made with a scalpel; the skin merely raised, and the orbicularis left as entire as possible, for in proportion to its destruction must the power of closing the lids be reduced."

These details were fully carried out in the removal of an oval strip of skin, and the wound being brought together with four or five sutures. The union was complete; indeed it always is in these cases, when cut surfaces are accurately adjusted. The success was as considerable as such a case admits of, for the deformity was almost removed, and the patient fully satisfied.

In remarkable contrast to the above is a case of congenital ptosis, the cause of which was totally different.

A very fine child, eighteen months old, was sent to Mr. Walton, at the hospital, during the month of October, with symmetrical falling of both upper eyelids, causing almost, but yet not complete, closure of the eyes. There was total inability to move the tarsal cartilages. The occipito-frontalis did not act because of the age of the patient. The recti muscles were in full integrity, and the pupils were natural and acted well; the vision, too, seemed perfect. There was no oscillation of the eyeballs. The defect was observed at birth. The child had already acquired a remarkable habit of holding his head up, and twisting it from side to side to see objects. There was very apparent that atropic condition of the eyelids that has been pointed out by Dr. Mackenzie, as due either to the deficiency of the levator muscle or wasting of it from disease. Mr. Walton decided to operate on one eye at a time, and, under the peculiar circumstances, to remove a large portion of skin; also, to take it directly from beneath the eyebrow. The right eye was first done. The degree of elevation was sufficient, and the occasional examination made by him during the subsequent two weeks satisfied him that too much integument had not been taken away, as he had seen the eyelids nearly closed. This being a guide, he endeavoured to operate precisely in the same manner on the left eye; and so far as we could judge, he effected it, for the child has both eyes open to the same degree. There is not at present (a month since the last operation) a scar on either eyelid.

ROYAL FREE HOSPITAL.

Tumour of the Tip of the Tongue, Existing Sixteen Years; Ineffectual Use of Caustics; Removal by Ligature.

(Under the care of Mr. Weeden Cooke.)

A fortnight ago we reported a case of tumour of the tongue, removed by Mr. Wood, at King's College, with success, wherein the disease was supposed to be non-congenital. To-day we give another instance, in which a growth of a totally different character,—most probably an hypertrophy of the muscular structure of the tongue itself,—existed for sixteen years. A microscopic examination would have determined the most interesting feature of the case—its intimate structure. We believe, however, that it was hypertrophy of the organ. This condition, without any tenderness or structural disease, generally depends upon an attack of acute inflammation, which may be completely overlooked as the cause producing it. Rokitansky considers hypertrophy in the voluntary system of muscles, to an extent that would be called morbid, and that would essentially disturb the functions of the part, as extremely rare; he, however, excepts the tongue and a few of the respiratory muscles alone. In studying hypertrophy of the tongue, our readers must recollect that it may be limited to its muscular substance, to its mucous covering, or to its papillæ; the former variety, as has been already observed by Dr. Gross, of Louisville (U. S.), although sometimes congenital, commonly appears some time after birth, and is now and then witnessed in adults, either without any assignable cause or as the result of glossitis. An histological feature of some interest in the history of hypertrophied papillary muscles especially, is the dichotomous division of the primitive fasciculi, which, if carefully traced, are found to terminate in very slender branches; and very often may be seen an anastomoses of some of the muscular fibres, which are thus dichotomously divided.

Anne R——, aged twenty-eight, a healthy young woman, has had a superabundant portion of tongue, the size of a filbert, with a broadish base attached to the tip of the tongue, for sixteen years. It distresses her very much; she has undergone much treatment for it in America, her native place, as well as in this country, to which she came expressly to get it cured. Caustics of various kinds have been employed, but only to distress her. Mr. Cooke proposed to remove it by ligature, to which she acceded. She was accordingly admitted into the hospital; and on the 21st of January, 1856, a needle was passed, carrying silk, through the centre of the base of the growth, which was isolated by tying the silk tightly on both sides of the needle. Perfect death of this part was produced, but from want of power in the patient, total separation did not ensue until after twelve days. The remaining ulcer healed kindly with the use of a borax lotion, and two or three touches with nitrate of silver. She went out greatly pleased, with the intention of returning to her home in America. Save a weakly and somewhat hysterical condition, there was no evidence of disease in this patient; there was no scrofula or cancer; and from the exact resemblance of the excessive growth to the rest of the tongue, as well as from the ineffectual treatment by caustics, there was no room for doubt that this was nothing but an abnormal growth of the tissues of the tongue itself.

ST. MARYLEBONE INFIRMARY.

Acute Osteitis and Periostitis of the Tibia, extending to the Knee-joint, the result of a Kick; Formation of Abscess above it; Amputation: Pus found surrounding the Tibia, and present within the Articulation; Death eight Days after, preceded by an Epileptic Fit.

(Under the care of Mr. Henry Thompson.)

Acute inflammation attacking the whole of a bone such as the tibia must naturally be looked upon with great anxiety by the surgeon; more especially when the symptoms appear to be very severe, and the progress of the inflammation rapid, as occurred in the following instance, which supervened upon an apparently trifling injury. We know very well that inflammation of a bone most commonly occurs as the result of an injury, although other causes, cold more especially, may may produce it. Very naturally we might expect an acute attack to occur from a really severe injury, but when a kick or some equally trivial cause will produce it, even without breach of surface—a species of injury which falls to the lot of many youths to put up with during their scholastic career—we have an illustration of the fact, that the intensity of the inflammatory process cannot be measured by the amount of violence producing it; in other words, the most dangerous disease may arise from a trivial cause. How this can be explained is as yet unknown, and as little understood as the reason why other affections should arise from cold.

In the short space of four days—so rapid was the inflammatory process—suppuration had set in, extending hourly, until the tibia was in a state of complete necrosis, and could be felt bare of periosteum. Unfortunately for the poor boy, the inflammation extended to the knee, as well as passing above it, and amputation was had recourse to; but his constitution was so enfeebled by the disease that he sunk eight days afterwards, on the occurrence of a fit.

A somewhat parallel case, but of a rarer and more remarkable character, appears in a former "Mirror," to which we would particularly refer our readers. This curious case was under the care of Mr. de Méric, and is an example of what he called *idiopathic* necrosis of the tibia, running its course, fatally, in the remarkably short period of three days, being severely acute in its character, and not followed by suppuration. We well remember the specimen which was shown to the Medical Society of London, and a more beautifully marked example of acute inflammation of bone we think, has been seldom witnessed—it was Nature telling her own story.

A case very similar to Mr Thompson's we saw some months back, at University College Hospital, under Mr. Erichsen's care, in the person of a little girl, whose life was saved by amputation of the limb above the knee, that joint being involved. The acute symptoms were most intense, and the pain actually dreadful. As near as we remember, the attack was idiopathic.

An interesting question arises in the perusal of the following case, which is of some importance to the pathologist, and it is—Was the bone involved at the outset of the injury, or was it secondary to the periostitis? Or, were the tibia and its investing membrane simultaneously affected? Now, the rapidity of the progress of the case would appear to favour the truth of the last supposition; but as suppuration set in so very quickly, and a large portion of the bone was surrounded with pus, we believe its investing membrane was generally inflamed before the osseous structure was invaded, an opinion in which we are fortified by the absence of the severe, excruciating pain, agonizing in its severity, which is felt when the bone is acutely inflamed. This was the peculiarity in Mr. de Méric's and Mr. Erichsen's cases. In our next number, we will give additional examples of necrosis of the tibia under the care of Mr. Coulson and Mr. Barnard Holt.

J. D——, aged fourteen, a tolerably healthy, but delicate-looking lad, admitted into the above infirmary on Aug. 22nd. Three days before he was kicked on the right shin by a lad at school. The skin was not broken; felt little pain, and complained of it again next day. The following day it was swollen, and he came into the infirmary.

Aug. 23rd.—The right leg has a pale, somewhat œdematous look; it is considerably swollen; fluctuation perceptible over the upper third. A free incision gave exit to deep-seated matter. Condition rather weak. During the next few days fresh matter formed, and fresh incisions were made. In the commencement of September, denuded bone could be extensively felt through three openings. He is weak, but is supported by stimulants and good diet.

Sept. 11th.—The right knee-joint has become painful and a little swollen. Inflammation has evidently extended to it. After a day or two, tenderness in the line of the femoral vessels appeared, and an abscess opposite to the lower fifth of the femur, just above the joint, and to the inner side, which was opened.

19th.—The discharge having become very profuse, and the patient's general condition precluding all hope of his possessing power to bear up during the process of reparation, Mr. Thompson decided to-day to amputate the femur at its middle third, and did it in the usual manner—by anterior and posterior flaps.

Examination of the limb.—The upper half of the tibia is detached from the soft parts around, and bathed in pus, containing fragments of disintegrated tissues. The cavity of the knee-joint contains pus also, and communicates with a large abscess situated opposite the lower part of the femur, at the inner side. The upper three-fifths of the tibia is of a yellow colour, completely denuded of periosteum, and is obviously in a state of necrosis. The head of the bone is seen in the cavity of the joint to be necrosed, and is denuded to have his leg amputated; and it was one of of its articular cartilage. Numerous vessels required ligatures. The stump was dressed with strips of wet linen, without plaster, and a compress was firmly placed above and below the flaps to ensure good approximation.

For the first three or four days subsequent to the operation, he appeared to improve, taking his food well, and suffering very little pain. His weakness was, however, manifest; and this increased, accompanied by free suppuration from the stump during the next two or three days. He was supplied with food in its most nutritious forms, and stimuli. On the 27th instant he had a severe epileptic fit, after which it was evident that he was sinking, and he died on the following day.

Lupus in the Foot in early Life, destroying the Toes; Continuation and Extension of the Disease producing Hæmorrhage; severe Pain and Debility: Amputation; Fatal Result.

(Under the care of Mr. Henry Thompson.)

The patient was a man, aged forty-eight years, who was the subject of lupus in the left foot in very early life, and then lost all his toes by it. Ever since he has had more or less of the disease in that extremity, in the form of ulceration about the foot and ankle; and latterly he has suffered severely from the pain and debility accompanying it. Within the last month or two, it has spread above the ankle, and very recently laid open the peroneal artery, causing dangerous hæmorrhage. Under these circumstances, amputation was deemed to be the only mode of affording the patient a chance for his life. It was therefore accordingly performed by Mr. Thompson in the usual manner, below the knee. He went on very well for a few days, but died of exhaustion and secondary hæmorrhage, from a sloughy stump, in about fourteen days after the amputation.

WESTMINSTER HOSPITAL.

Necrosis of the whole Shaft of the Tibia in a Boy, with extensive Implication of the soft Structures; Removal of a large Sequestrum; Cure.

(Under the care of Mr. Holt.)

If necrosis is one of the most common affections implicating such bones as the tibia, femur, and humerus, it is an exceedingly fortunate circumstance that in the majority of instances the *epiphyses*, or articular extremities, remain unaffected. But we do meet with instances of the latter now and then, and amputation offers the only means to save life. The chosen seat of this affection, when a joint becomes involved, is the head of the tibia. Upon this point we quote the following observations from Mr. Stanley's excellent work on "Diseases of the Bones:"—"Necrosis is of frequent occurrence in the cancellous texture of the head of the tibia. There appears, indeed, to be something in the structure and function of the head of the tibia, especially disposing it to the invasions of disease; for here, not only necrosis, but also abscess, is frequent; and here, also, the malignant affections of bone are frequently developed."—p. 70. Of necrosis of the femur we saw Mr. Hilton, at Guy's, in June last, remove portions of the bone from three different sinuses, leading to the lower part of the bone at its posterior aspect, followed by good results. We have witnessed the same result in cases of Mr. Fergusson's, at King's, several times. That gentleman removed a large sequestrum from the shaft of the humerus of a boy, a few months back, for disease of some years' standing. This patient had but one leg, the other having been amputated, so far as we could learn, many years before, for necrosis of the tibia. Mr. Erichsen, last year, at University College, removed the entire ulna, all but an inch of its upper end, from the arm of a woman, for necrosis. We may mention, *en passant*, that Mr. Jones, of Jersey, removed the ulna, in a state of necrosis, from a patient, with good results (see p. 80 of this volume), Mr. Fergusson and Mr. Partridge, at King's; Mr. Cock, at Guy's; Mr. Wordsworth, at the London; Mr. Erichsen, at University; Mr. Stanley, at Bartholomew's; Mr. Solly, at St. Thomas's, and many other hospital surgeons, we have seen, many times, remove either sequestra or portions of diseased bone from the tibia, most generally in chronic cases. In July last, Mr. Cock used the trephine with success in extracting portions of a sequestrum. Three weeks ago, a peculiarly interesting case was witnessed in the theatre of King's College Hospital, of a girl with necrosis of the tibia, from whom Mr. Fergusson removed portions of the new shell of bone to get at the dead within, in which he perfectly succeeded; but the greater part of the interior of the shaft of the tibia was filled with a lardaceous substance, of cheesy consistence, resembling tuberculous matter, a good deal of which he got rid of, stating at the time that this was an occurrence of great rarity, not having before, in a very extensive experience, witnessed anything of the kind. Not less interesting was a case of elephantiasis, under Mr. Cooke's care, at the Royal Free Hospital, in which the tibia had been chronically necrosed for many years, with several openings leading to dead bone. Mr. Cooke's intention was to have removed the dead portions of bone, but the patient would not submit to any operative measures.

While on the subject of necrosis, we may mention that we saw Mr. Fergusson remove, in June last, a large portion of dead bone from the spine of the scapula of a young man, with beneficial results; in fact, as any one may witness for himself who follows the practice of our London hospitals, the abstraction of portions of dead bone is almost invariably followed by the best results.

In Mr. Holt's case, the subjoined brief abstract of which was kindly furnished us by Mr. Alfred Marshall, the house-surgeon to the Westminster Hospital, the boy was sent up from the country those which many surgeons, even now, would not have hesitated to remove, without much consideration, so extensive was the disease in its implication of the soft structures, as well as the entire bone itself. Like the preceding case of Mr. Coulson's, the ankle was apparently inflamed, but in reality not so, and the disease would seem to have depended more upon a scrofulous diathesis. The same form of operation was performed as in Mr. Coulson's case: an extensive incision the whole length over the line of the tibia, and one of the largest sequestra we have ever seen was removed, its socket being formed by the mere shell of bone remaining behind. This has contracted slowly and gradually, the sides of the large wound approximated, and although now and then the granulations were rather exuberant, the process of healing has gone on very efficiently, two or three ulcerated surfaces having yet to skin over, but now quite unconnected with any dead bone.

William M——, aged eleven years, admitted May 28th, 1856. Is an anæmic boy; has been subject to enlarged glands about the neck for years; general health very indifferent and very much emaciated and worn away. Eight months since, the inner aspect of the left leg near the ankle became swollen, red, and painful. A few days subsequently an incision was made, and pus evacuated of a fetid, sanious character. Since that date several ulcers have formed in the interval between the head of the tibia and the inner malleolus; there are now seven or eight, from which, at different times, about a dozen fragments of necrosed bone have been eliminated. The inner malleolus is not implicated, neither is the head of the tibia.

May 31st.—An incision was made from an inch or two below the knee to a short distance above the ankle, over the line of the tibia, and nearly the whole shaft of that bone was removed, a mere shell only being left behind.

Nov. 15th.—Small pieces of dead bone have since come away, one so late as yesterday. The wound has healed, with the exception of two surfaces about the size of half-a-crown, which, look healthy, and secrete but a small quantity of bland pus. The boy's general health is good, and a perfectly satisfactory cure may very shortly be expected.

ST. MARY'S HOSPITAL.

Cases of Ruptured Perinæum, with Extension through the Sphincter Ani Muscle; Involuntary Motions; Relapse of one from Scarlet Fever; all successfully cured by Plastic Operations.

(Under the care of Mr. Baker Brown.)

On a former occasion we recorded in our "Mirror" three good examples of procidentia and prolapsus of the uterus, successfully cured by plastic operations. In the first of these three cases (that of Julia L——), some absorption of the perinæum seems to have gone on, and its lining membrane became excoriated from the prolapsus of the womb since the operation. This Mr. Brown believes to depend upon the presence of secondary syphilis, symptoms of which are still manifest. The successful result of the operation, therefore, has not been a satisfactory one, and we have heard this gentleman state, that although it is almost invariably successful, yet sometimes cases do present themselves—as the one just referred to—in which it does not prove so favourable as might be anticipated.

To-day we present three examples of ruptured perinæum, extending through the sphincter in each, in which "Brown's operation" was performed with marked success. The second case was twice submitted to this procedure, in consequence of a relapse from scarlet fever on the first occasion. The third instance occurred in a delicate hysterical patient, who was admitted with her infant, and so much relaxation was produced by the laceration of the parts, that partial prolapsus of the uterus had occurred.

We have already, in previous "Mirrors," adverted to the special points to be observed in this important operation, and need not now repeat them. We will observe, nevertheless, that it is in remedying a ruptured perinæum that the sphincter is invariably divided. It is wholly unnecessary in any other affection of these parts,—prolapsus uteri, for instance,—and we do not hesitate to assert that it is in the observance of this procedure that success invariably results, although the care and attention bestowed by Mr. Brown on all of his cases help materially in bringing it about. With regard to the division of the sphincter, Mr. Brown, in his work on "Diseases of Women," says, "The degree of relaxation to be sought must be regulated by the extent and character of the laceration; it being remembered that the freer the incision the greater will be the amount of relaxation obtained. In every case muscular traction must be destroyed, for so long as it exists it will oppose the union of the parts." —p. 35.

The moment the operation has been completed thus far, the thighs are approximated, and then the quill sutures are introduced. This part of the operation should be seen to be understood, and upon the efficiency of its performance depends in a great measure the strength and firmness of the new perinæum, which we may be excused for saying almost exceeds that of Nature herself. It certainly does in some respects. "Brown's operation" is generally completed in about twenty minutes, even when the cases are very bad, and a cure results in a fortnight, sometimes sooner. No bad effects have followed, that we are aware of, in scarcely a single instance, notwithstanding that it has been pretty frequently practised at many of our hospitals. The following observation, therefore, from Dr. West's recent work on "Diseases of Women," cannot but strike the reader as evidencing either a great want of experience in this class of cases, or else a total disbelief in the results of those operations which have from time to time been brought before the notice of the profession: "It must also not be forgotten that these comparatively trivial operations on the external sexual organs of women are not absolutely free from risk, but that, while they very often fail of success, they have been known to give rise, in a few instances, to dangerous or even fatal peritoneal inflammation."—p. 188. Those surgeons who are practically acquainted with "Brown's operation," and who know how much it differs from that of the late Dr. Fricke of Hamburg, will smile when they learn that an authority like Dr. West should have so greatly erred as to mention, in the same work, that it is an adoption, in a modified form, of Fricke's operation.

Rupture of the Perinæum, extending through the Sphincter Ani; Plastic Operation; Cure.

Annette M'P——, aged nineteen, was admitted into Boynton ward on the 17th of May, suffering from ruptured perinæum. She had two children, the first delivered on the 3rd of January, 1855, full grown and larger than usual, requiring the use of instruments. The perinæum was completely ruptured, after which she entirely lost control over the bowel. She went to an hospital where she remained three weeks, without receiving any benefit. This was in the first week of February, 1855. On the 27th of March, 1856, she was delivered of a seven months' child, labour being prematurely induced.

Present Condition.—The perinæum is entirely ruptured, half of the sphincter muscle being quite lost. The patient states that she has no control at all over the bowel, and when the bowels are relaxed the fæces escape involuntarily.

On May 20th, some blue pill and compound extract of colocynth were given at bed-time, and castor oil in the morning.

21st.—An enema of warm water was administered, and repeated again at twelve o'clock. At one P.M. the usual operation was performed, under the influence of chloroform. Two grains of opium were given on returning to bed, and a grain every four hours after. No sickness occurred till half-past six o'clock P.M.

22nd.—The sickness continued till six o'clock this morning; since then she has been very comfortable. She now (ten A.M.) feels very easy, and free from pain and sickness. Four ounces of wine and strong beef-tea were ordered.

24th.—Slight suppuration of posterior quill sutures, they were therefore removed. Tongue clean.

26th—Interrupted sutures removed, the parts looking healthy. The pills to be taken every six hours.

Next day she had a pint of porter, and a few days afterwards took further nourishment. Her bowels were relieved by enemata on two occasions.

On the 14th of June she was discharged, the perinæum being perfectly sound, and complete control over the functions of the lower bowel having been gained; the general health, also, was quite good. Up to October 30th, when last seen by Mr. Brown, she had continued perfectly well in every respect.

Rupture of the Perinæum through the Sphincter Muscle; Plastic Operation in July rendered unsuccessful from an Attack of Scarlet Fever; Operation repeated in October; Cure.

Alice M——, aged seventeen, was admitted into Boynton ward on the 15th of July, 1856, suffering from ruptured perinæum. She was confined of a living male child on the 30th of March, 1856, labour having commenced at five A.M. of that day, and finishing at eleven P.M. She states that she was attended by a woman. The following day she discovered that she had not the slightest control over the action of the bowels, which she has never since recovered.

Present Condition.—The perinæum completely ruptured; inability to control the motions. On Oct. 8th, at one P.M., Mr. Brown performed his usual operation, the patient being under the influence of chloroform. Immediately after the operation, ice was given to prevent sickness, which proved completely successful. Two grains of opium were then given, and one grain every four hours after six o'clock this morning.

9th.—Pills to be given every six hours. To have arrowroot, eggs, and milk, as much as she can take; but no wine or porter. She passed a fairish night. Tongue clean; pulse 90, pretty strong; urine drawn off by catheter every five hours.

10th.—Doing very well. The next day the deep sutures were removed, and the parts looked healthy.

On the 13th the catamenia appeared. She was ordered port wine and a mutton chop. She went on very well indeed. The bowels were opened by castor oil, and an enema on the 19th, which was followed the next day by a natural motion, with complete command over the sphincter. By the 30th she was quite well, and sitting up the whole of that day.

This patient was operated on in July last; but having been seized with an attack of scarlet fever, on the second day, the sutures were all removed, as she was dangerously ill from the fever, but, on the present occasion, has made a most excellent recovery.

Rupture of the Perinæum through the Sphincter Muscle into the Rectum; Prolapsus of the Uterus: Plastic Operation; Cure.

Anne C——, aged twenty-five, married, was admitted into Boynton Ward, Nov. 6th, 1855, with her infant at the breast.

History.—Six weeks ago the patient was delivered of a female infant, which came feet first. She was in labour forty-eight hours, but the fœtus was not actually engaged in the passage more than half an hour. She states that the pains were short but powerful, and that great force was used in extracting the fœtus during the intervals of the pains. Suddenly she felt a sensation as of something giving way, and the child immediately passed into the world. Since the accident she has had incomplete control over the contents of the rectum: when the fæces are formed, she can retain them; when the bowels are much relaxed, they pass away involuntarily, and without her knowledge; and in both cases more by the front than by the back passage. She is fair, and has delicate health; very liable to bronchitic attacks upon the application of slight exciting causes; has no other special predisposition to disease.

On examination, the perinæum was found to be completely torn through to the rectum (through the sphincter), but there was a band forming a kind of attempt at union quite at the posterior extremity of the rent. The uterus was prolapsed. On the 7th of November she was operated upon, without chloroform, on account of a very weak heart and pulse, the latter numbering 55. She bore the operation very well, but after being put to bed she had a violent hysterical attack; it was, however, easily subdued, and she became comparatively quiet. She had two glasses of wine before the operation, and one ounce of brandy afterwards; no hæmorrhage. To have iced water, a catheter retained in the bladder, and one grain of opium night and morning. She is to continue suckling the child.—Evening: Is going on very well.

Nov. 8th.—Tongue clean; pulse quiet; skin not too warm; urine flows in large quantities, and is very pale (as usual after hysteria). Slept pretty well after one A.M.

10th.—Tongue moist and tolerably clean; parts look very well; feels no discomfort, but some pain in the leg. Deep sutures removed; the track of the posterior one rather sloughy, and discharges pus; parts apparently united.

11th.—Parts look very well; feels comfortable.

12th.—Superficial sutures removed. The ulceration where the sutures were placed was attended with rather a profuse discharge of a disagreeable odour. The milk is deficient in quantity.

13th.—The opium to be discontiued unless the bowels show a disposition to act. The parts are completely united, and the patient very comfortable.

14th.—The bowels will not remain quiet without the opium, and it is consequently resumed.

19th.—The bowels opened by an injection, as the patient was rather distressed by the continued constipation.

20th.—The parts look very well, firm union having taken place.

Dec. 2nd.—Discharged cured.

Extensive Necrosis of the Tibia, preceded by Acute Inflammation four Months before, apparently attacking the Knee and Ankle-joints; removal of Pieces of Diseased Bone; Erysipelas; Cure.

(Under the care of Mr. COULSON.)

The following case might be taken at its commencement for disease of the ankle-joint; yet it is clear from the progress of the complaint that it was confined to the shaft of the tibia, and did not involve either the ankle or knee-joints. It is a curious fact that all systematic writers on diseases of the joints, while treating of the diagnosis of these affections, have omitted to notice the lesion which bears the closest resemblance to arthritis in its early stage. The lesion is necrosis of a portion of bone in the immediate vicinity of the joint. In such cases we have often pain, swelling, impeded motions of the joint—in fact, the leading symptoms of commencing arthritis, and much care will be required to establish the diagnosis. The subjoined case illustrates this point, which is well worthy of attention. Another case, published from Mr. Coulson's practice, is even more remarkable. It was one of necrosis of the trochanter major, and the symptoms resembled those of incipient hip disease in a manner which might easily have deceived a less experienced surgeon. A case of even greater interest than this is at present in St. Bartholomew's Hospital, where symptoms of diseased knee-joint were for some time manifest, and which depended upon necrosis of the condyles of the femur, the sequestra of which were removed by Mr. Stanley some months back. Necrosis in young persons is generally of a scrofulous nature; it occurs in the tibia more frequently than in any other bone. The state of the constitution is not alluded to in Susan F——'s case, nor is any presumed cause noticed; but the disease probably originated in scrofulous osteitis. The fortunate termination of the case, which occurred much more rapidly than we should have expected under the circumstances, was probably due to the decisive practice adopted. Extraction of the sequestra alone arrests the inflammation, and prevents it from extending to the neighbouring joint. One of the most striking features of the present day in the treatment of necrosis of any bone, is the preservation of limbs by timely interference in the removal of sequestra and portions of diseased bones, which we have over and over again seen submitted to amputation not a great many years back. The tibia, of all the bones, appears to be the most liable to necrosis, as we have just observed, whether in its acute or chronic form. An example of the former appeared on a previous occasion under Mr. Henry Thompson's care, at the Marylebone Infirmary.

Susan F——, eleven years of age, was admitted on the 1st of February, 1856. About four months ago the right ankle became swollen and inflamed; the disease increased rapidly, and in a few days the child was unable to put her foot on the ground without suffering great pain. She consulted a surgeon, who ordered the use of leeches, to be followed by warm linseed poultices, and bark internally. The swelling increased, and a small puncture was made at the most prominent point, whereby some matter was evacuated. A piece of lint was then introduced to keep the wound open. The leg now became inflamed along its whole extent; the discharge continued from the original wound, and two more abscesses had formed, one about the centre of the leg, the other at its upper part; these were likewise opened. The knee-joint also seemed to be attacked, for it became enlarged. Such was the rather imperfect history of the case gathered from the little patient.

On examining the limb, a swelling was discovered over the external malleolus of the right leg; about two inches above the internal malleolus there was a sinus three inches long, through which a probe was passed; the instrument passed inwards for two or three inches in the direction of the ankle-joint, and then came into contact with the denuded bone. At the middle of the leg there was a similar sinus about two inches in length, and about one inch below the tubercle of the tibia there was a third sinus, the orifice of which was small, and through which the bone could be distinctly felt. The whole limb from the ankle to the knee appeared to be in a state of inflammation.

Feb. 6th.—Having submitted the patient to some preliminary treatment, Mr. Coulson laid open the whole limb from the knee to the ankle by a vertical incision, which run along the inner side of the tibia. Several portions of diseased bone were thus exposed and removed. To have ten minims of laudanum immediately.

7th.—The patient is feverish to-day, and the whole limb is hot. Ordered an effervescing draught thrice a day.

8th.—Erysipelas has set in, and is extending from the ankle to the knee-joint. A lotion of the chloride of soda was employed.

12th.—The inflammatory condition of the integuments is subsiding. To take a mixture of cod-liver oil and iron wine thrice a day.

15th.—The little patient is still low and weak, but the appearance of the leg is improved. To take three grains of sesqui-carbonate of ammonia, with the tincture and decoction of cinchona, every six hours.

27th.—The black wash was applied with the poultice.

April 24th.—The leg is now bandaged; only one small sinus remains at the lower part of the leg.

The patient was discharged cured on the 25th.

Provincial Hospital Reports.

GATESHEAD DISPENSARY.

Suspected Subclavian Aneurism.

(Under the care of T. W. Craster, Esq., M.R.C.S.E., L.S.A., Lecturer on Chemistry at the College of Practical Science, Newcastle)

Thomas W——, aged forty, labourer, was admitted a house patient at this dispensary in the month of October last, having previously been treated by several practitioners. He complained of shooting-pains in the left shoulder, extending down the arm as far as the hand. These pains were aggravated when he attempted to use his arm, and increased in violence every night; they occurred in paroxysms, and extended to the chest and right side of the body, attended with a peculiar anxiety, referable to the region of the heart, being so severe as to cause him to leap from his bed immediately on their occurrence. He complained of frequent cough, occurring in severe paroxysms, very much resembling hooping-cough, attended with expectoration of frothy sputa. He had suffered from these symptoms for four months, attributing his ailment to a former attack of inflammation of the chest. On inspecting the chest, the left side was found to be considerably shrunk, particularly at its base, and the scapula of the same side was much depressed. The muscles of the shoulder and arm were affected with an involuntary contraction, and the sterno-mastoid of the same side was on the stretch, the head being drawn down to that side. On percussion, the chest was found to be quite sonorous, and in other respects healthy. On applying the stethoscope, a very distinct bruit was heard over the supra- and infra-scapular regions of the left side. This bruit was quite audible on the posterior surface of the left chest, and in front as low as the left mamma. On palpation, a well-defined pulsating tumour could be distinctly felt over the clavicle, the bruit being most distinctly heard in this region. The sounds of the heart were perfectly healthy, and the respiratory murmur natural, with the exception of a slight mucous râle.

From the symptoms manifested, it was inferred that the patient was suffering from subclavian aneurism, attended with attacks of angina pectoris. The pains extending down the right side of the neck and arm were supposed to be caused, in a great measure, by the pressure of the aneurism on the brachial plexus of nerves, and this conclusion was borne out by the symptoms manifested.

It was proposed that the subclavian artery should be cut down upon and tied, as the supposed aneurism appeared to be the cause of the patient's sufferings. This measure was not resorted to. The patient was ordered large doses of morphia and an antispasmodic mixture. This treatment was continued for a few days without any amelioration of the severity of the symptoms. At my fourth visit, the chest was examined a third time, when lo! and behold! both the tumour and bruit had completely disappeared, and not a vestige of them remained! The expectoration of frothy sputa had continued, and was examined daily; it was found quite unaltered, not containing the slightest trace of pus, at once removing the idea of the tumour being caused by the presence of an abscess, which might have burst into some of the bronchi. The attacks of angina pectoris had rather increased in severity, attended with vomiting. The vomited matters were then examined, but they did not contain anything of interest, being chiefly composed of bile and mucus. The chest was examined and found quite healthy, and the bruit which was previously heard over the upper surface of the left side had totally disappeared. The patient was ordered a mixture containing bismuth, magnesia, hydrocyanic acid, henbane, mucilage, and aromatic water, which considerably relieved him, the morphia being continued. From this period he continued to improve steadily, the fits diminishing in severity and frequency, the morphia enabling him to sleep comfortably. Previously to the exhibition of the morphia he had not been able to sleep for an entire week. This treatment was continued, and in about a fortnight he was able to leave his room. He continued to improve rapidly, without any return of the tumour or bruit, and is able at present to follow his employment.

The important point connected with this case consists in the fact of there appearing a tumour and bruit immediately over the subclavian artery, presenting all the symptoms of subclavian aneurism and so rapidly disappearing without any apparent cause. There was no pus in the matter expectorated, nor in the vomitings, showing that an abscess had not burst into the bronchi or œsophagus. The chest was minutely examined immediately after the disappearance of the tumour and frequently afterwards, but the cavity of the pleura was not found to contain any fluid; and lastly, the pulse was never absent at the wrist.

Accidental Poisoning by Strychnine.

About three months ago, I was suddenly called to visit a woman who had taken an over-dose of strychnine. The strychnine was prescribed for the relief of partial paralysis and anæmia, attended with menorrhagia. This medicine was administered in the form of a pill containing the twelfth of a grain of strychnine to each dose. The woman had taken one of these pills about one o'clock in the afternoon, and repeated it about half an hour afterwards, contrary to the directions she received on procuring the medicine. She soon felt a peculiar sensation about the arms and neck, accompanied with slight twitchings of the muscles. She was induced to take a third pill by one of her neighbours who was present, which made the whole taken amount to a quarter of a grain of strychnine.

On my arrival, I found her frightfully convulsed, her head being thrown backwards by the violence of the spasm, her arms and legs being at the same time affected with severe spasms, and her jaws firmly closed. However, there were well-marked intervals between the spasmodic attacks, which enabled her to sit up in bed. During one of these intermissions I succeeded in administering a very powerful emetic, consisting of sulphate of zinc and ipecacuanha. Vomiting ensued about twenty minutes afterwards, at the time she was affected with a spasmodic attack. When the vomiting commenced, and while the attack lasted, she was unable to open her mouth; consequently the contents of the stomach were ejected through the nostrils and between the interstices of the teeth. She vomited at three different periods, twice during the spasmodic attacks, and once during the interval between the paroxysms. Ammonia, combined with chloric ether was administered. The intervals between the spasmodic attacks gradually increased, the spasms diminished in severity and frequency, and in about five hours the patient had quite recovered. She complained for two or three days of great pain on masticating her food, and slight stiffness in the muscles of her neck and back.

NORTH STAFFORDSHIRE INFIRMARY.

A Case of Dislocation of the Middle Cuneiform Bone of the Left Foot, with severe Contusions of the Leg, followed by Tetanic Spasms; Recovery.

(Reported by William Henry Folker, M.R.C.S., L.A.C., House-Surgeon to the Infirmary.)

James N——, a young man, aged twenty-four, of a sanguine temperament and full habit of body, was admitted at six P. M., on the 27th of July, 1855, under the care of Mr. Turner, in consequence of the following accident:—Whilst attempting to stop a truck of coals, his foot slipped, was caught by the wheel and twisted, and when he was down his foot and leg were again struck. On examining the limb, it was found that, in addition to a laceration on the lower and outer side of the leg, and several severe contusions, there was a dislocation of the middle cuneiform bone of the left foot. The dislocation was very easily made out, the bone being forced up, and the square upper surface being very distinctly felt on the dorsum of the foot. Reduction was easily effected by making extension from the toes, slightly bending the foot backwards, and at the same time pressing the bone firmly down, when it was felt to slip into its place with a slight snap. A flat piece of wood, on the sole of the foot, and a firm bandage, were applied to prevent the bone from again slipping from its place. At night a good deal of pain and swelling came on, the bandage was obliged to be removed, leeches and fomentations were applied, and a purgative of calomel and colocynth was given.

The following day the bowels were open, and the swelling decreased, though the pain was still severe.

July 29th.—A good deal of erysipelas about the foot.

Aug. 1st.—Wound on the leg looks sloughy; matter has formed in the sole of the foot; and the glands in the groin are painful and enlarged. The matter in the foot was let out with a lancet, leeches applied to the groin, and five grains of calomel given, to be followed by a purgative draught.

2nd.—The leg is still inflamed a good deal. The leeches to be repeated.

10th.—Matter having formed over the shin, it was evacuated, and the part poulticed. There was also a great deal of swelling and vesication over the foot.

15th.—Has had several shivering fits; the leg very much inflamed. Ordered a quarter of a grain of opium every four hours.

20th.—The wound on the leg, which is now the size of the palm of the hand, looks very unhealthy; a slough is forming on the inside of the ankle. There is also much pain in the stomach, with flatulency. The dose of opium increased to half a grain; and the leg to be dressed with resin ointment, covered with a fermenting poultice.

22nd.—Wounds still sloughing, and increasing in size. To take an effervescing mixture with carbonate of ammonia, and some brandy.

23rd.—Sloughing still on the increase; the whole leg very painful. Tincture of benzoin applied to the wounds under the poultice. He has been slightly purged. Has a very anxious expression of countenance, and an impression that he is going to die. About two o'clock in the afternoon the house-surgeon was suddenly summoned to the patient, who was said to have something in his throat. He was observed to have a violent moving up and down of the thyroid cartilage, the head being slightly thrown back and breathing difficult. He could open his mouth but very little; and when questioned, answered with a great deal of stammering and indistinctness, and complained of great pain at the angles of his jaw. Chloroform was administered, and a very few inspirations relieved the symptoms; he then spoke distinctly, and said that he was first seized with cramp in the stomach, which appeared to pass up into the throat, and that he had severe pain in the leg. He also stated that he had two similar attacks in the previous night, which he had not mentioned before. A little brandy was given, and in a short time he appeared to be quite recovered. About an hour afterwards another summons came, saying the man was dying. All the symptoms of the former attack had returned, with the addition of twitching of all the facial muscles, and insensibility. The inhalation of chloroform to a very small extent again relieved him, but not so perfectly as before. The pain in the jaws and twitching of the face remained; he could not put out his tongue steadily nor speak distinctly, and had a difficulty in swallowing. His pulse was quick and face flushed. A poultice was ordered to the leg and foot; a line of caustic was pencilled round the leg above the inflamed parts; and a tablespoonful of camphor mixture, with two drops of chloroform, ordered to be taken every two hours.—Eleven P.M.: Has had several other paroxysms; the twitching and pain in the jaw continue, but are not so bad; the pain in the stomach has subsided. To continue the chloroform mixture, and take a draught containing twenty-five minims of Battley's solution.

24th.—Has slept pretty well, but rambled a little; during sleep even a slight twitching remains, but no violent paroxysm has occurred; he is feverish and thirsty; pulse 112: occasionally rambling; the leg is painful, and the sloughing has increased. Free incisions were made in the leg, which was then covered with a poultice, and ten drops of Battley's solution were added to each dose of his mixture. In the afternoon hæmorrhage occurred from two of the incisions; one was controlled by a compress of lint, in the other, a vessel which had given way, was divided and tied.—Ten P.M.: Rather better; to continue mixture and take three ounces of wine, and some strong beef tea.

25th.—Has slept, but is restless, and rambles; no twitchings or pain in the face; pulse 107; leg very painful; omit Battley's solution, and take a grain of quinine in an ounce of infusion of roses, three times a day. Ten P.M.: Has had two slight paroxysms in the afternoon, accompanied with pain in the stomach and face as before; very thirsty; pulse 112; to continue beef tea, quinine, &c., and take the chloroform mixture when necessary.

26th.—Slept but little; pulse 117; is very weak and low; bowels open; no pain or spasms. —Ten P.M.: In the evening he had three or four very severe paroxysms, the limbs being rigid and immovable, a catching in the throat as if for breath, and violent twitching of the nose and face. Chloroform, which was inhaled to a small extent, relieved him immediately, as it had done when administered on each of the previous attacks; pulse 105; weak; to take a grain of extract of belladonna every four hours.

On the 27th and 28th he had some few attacks; average of pulse 105; the sloughing has stopped.

Sept. 3rd.—Had a slight attack for the first time since the 28th; the sloughs have separated, leaving three wounds, each larger than the palm of the hand, which discharge a good deal; to have meat and six ounces of brandy beaten up with eggs during the day; continue quinine mixture; dress the leg with zinc ointment, and take the chloroform mixture when required.

Oct. 8th.—Has had twitchings once or twice during the last few evenings; once very severely, being unable to speak intelligibly for several hours; leg looks well; pulse 84; feels better in himself; to continue the quinine, brandy, and eggs, and have four ounces of wine in addition.

10th.—Has been gradually getting better; no more spasms: the leg to be dressed with red wash; medicine and diet as before.

Oct. 20th.—Much better, wounds healing up; there is a good deal of thickening about the instep, and the ankle is stiff; to be dressed with strapping from the toes upwards, leaving apertures to dress the wounds.

Nov. 10th.—Less swollen; more motion in the ankle; a small piece of exfoliated bone came from one of the wounds in the leg; wounds healing fast; has gained flesh.

Dec. 4th.—Rambled during the night, and had several shivering fits; bowels costive; foot much inflamed; to have low diet, and take effervescing mixture with a quarter of a grain of antimony, and a two-grain calomel pill three time a day; poultice to the foot.

5th.—Has rambled a good deal; pain and inflammation in the foot very severe, with erythema extending up the leg.

6th.—Has had several shivering fits; the erysipelatous blush has extended up the leg; bowels open. To continue the medicine, and have a line of caustic pencilled round the leg, just above the knee.

8th.—Rather better, though the erythema still remains.

10th.—The erythema has extended beyond the line of nitrate of silver; the parts are still painful; mouth slightly affected by the calomel, and he has been very sick. To leave off the calomel, and take simple effervescing mixture.

12th.—Better; erythema dying away; swelling in the foot diminishing.

15th.—Much better; all the wounds closed.

20th.—Discharged. The wounds perfectly healed; the foot still somewhat swollen, and the ankle stiff. A firm roller bandage applied, and directions given to exercise the ankle-joint gradually.

METROPOLITAN INFIRMARY FOR SCROFULOUS CHILDREN, AT MARGATE.

Excision of the Knee-joint, in a Girl, aged fifteen, for Disease of Five Years' standing; Removal of Patella; Strumous Deposit in the Cancellated Extremities of the Bones, with Destruction of the Synovial Membrane and Cartilages; Recovery.

(Under the care of Mr. P. C. Price.)

Sarah P——, age fifteen, a slim, pale-faced girl, somewhat dwarfed in growth, was sent from London to this infirmary, having suffered for five years with strumous disease of the left knee-joint. She is a native of London, and has been but indifferently nourished; and at the time of her admission, was in an extremely emaciated condition. Having spent some time here with much benefit to her general health, Mr. Price thought that, as removal of the diseased part was imperative, the operation of excision of the joint was a proceeding well calculated to answer all the purposes of amputation of the limb, besides allowing the girl to retain, what is so much to be desired, a useful extremity.

No cause can be assigned for the commencement of the disease. At the time the operation was performed, the following were the conditions of the joint:—The leg, which is somewhat emaciated and flabby from disease, is flexed at an obtuse angle with the thigh. The joint is greatly swollen, and its proportions much altered. This enlargement is principally owing to a highly-elastic state of the swelling, which extends on either side of the patella, and upwards under the rectus. The integument covering the joint is of a white glistening nature, except at certain points where five fistulous openings exist, of a darkish-brown hue, and admit the passing of a probe into the interior of the joint, and into a large cavity in the head of the tibia. The tracks are more or less tortuous in their passage into and about the joint, and for the most part communicate with each other. An offensive discharge escapes through these orifices. The condyles of the femur are not enlarged, but the head of the tibia, although not really expanded, has the appearance of being so from the thickened and indurated tissues covering the part. Moderate pressure causes but slight annoyance, but when increased gives a deep gnawing sensation. There is no dislocation of the head of the tibia, but the leg is tied to the thigh at an obtuse angle, apparently by indurated glands and a mass of half organized lymph which fills up the popliteal space. The hamstring tendons are likewise permanently contracted. Considerable pain is complained of at night, and the discharge is generally more profuse than in the day-time. The patella is in the proper position, but is immovably fixed.

The general health having much improved, and the patient being most desirous to retain her leg, if possible, Mr. Price, with the concurrence of his father and colleague, Dr. Price, performed the operation of resection of the joint on the 17th of May, 1856. The patient being placed under chloroform, the usual H-shaped incision was carried through the integument; the perpendicular incisions, however, were made so as to connect the fistulous openings which existed in the line of the lateral ligaments, while the transverse cut ran over the centre of the patella. The flaps being resected back, the ligamentum patellæ was divided, and the patella removed. On opening the joint, the synovial membrane was found to be almost entirely gone; what did remain was in the last stage of pulpy degeneration. The inter-articular cartilages were entirely destroyed. The condyles being cleared of all soft tissues, their articulating surfaces were removed to the extent of about an inch; the cut surfaces, however, not appearing free from strumous deposit, another slice was taken away. The head of the tibia was excavated by a large abscess. A slice was removed, about three-quarters of an inch in thickness, and the remaining cavity of the abscess thoroughly cleansed by means of the gouge and scoop. The patella, though healthy, was taken away. Notwithstanding the extent of bone removed, considerable force had to be used in stretching the hamstring tendons and the indurated mass of tissue filling up the popliteal space. With a little care, however, the cut surfaces of the bones came perfectly into apposition. No bleeding of any consequence occurred, and no ligatures were necessary. The flaps of skin, though appearing somewhat redundant, were brought together by a few points of suture. The limb was placed on a M'Intyre's splint, and a fold of bandage wound round the foot and leg, and another around the thigh. The wound was covered with water-dressing. The limb, with the splint, was then suspended in a Salter's swing.

The cut surfaces of the bones, upon examination, were found infiltrated with strumous matter of a pale yellowish colour, and of a soft, cheesy consistence. At the points where the cancellated tissue appeared free from such deposit, the bony structure seemed healthy, although somewhat softer than usual. The disease had evidently commenced in the ends of the bones, and worked its way into the cavity of the joint. The articular surface of the external condyle was partially ulcerated, and much thinned. The articular surface of the head of the tibia was totally destroyed, the cancellated tissue having been removed, and the bony shell alone remaining. The synovial membrane had almost disappeared, and the remaining portion was in the last stage of pulpy degeneration.

For a few hours after the operation, some pain was complained of, for which an opiate was given with relief.

May 18th.—The limb started about four times during the night, yet she continued to sleep some hours without an opiate; pulse 96, and breathing quiet. During the day she ate some chicken and bacon, and drank port wine occasionally.

19th.—Slept soundly during the night; no opiate was given; the limb started but twice.

20th.—Slept well through the night; there is some fœtid discharge through the lint. A stitch on either side of the joint was removed, to make a ready exit for the matter; the wound fresh dressed, and a straight position of the limb was studiously maintained.

24th.—In every respect doing well. The position of the limb is well maintained by simply rolling the leg and thigh with a roller to the M'Intyre splint, without having recourse to any side splint.

26th.—The discharge is very thick and yellow, containing small, curdy, white flakes, of a cheesy consistence. No pain; appetite good. The wound is covered with water dressing.

June 4th.—Doing remarkably well; sits up in bed, and finds the swing a great comfort.

12th.—The discharge is becoming less, and the wound is gradually closing.

June 20th to July 13th.—The constitutional disturbance is so slight that the patient is enabled to sit up in bed, and work and read with comfort.

July 14th.—To-day the M'Intyre splint was removed, and a gutta percha one substituted. She can put her foot to the ground, and bear some degree of pressure upon it. The union is not very firm at present, but is very promising. She is allowed to be drawn about in a chair carriage, and to sit in the open air.

August 30th.—For the last six weeks the patient has been daily gaining strength, and improving in general health, notwithstanding she suffered at the catamenial period from fits, which somewhat retarded her onward progress. The wound has almost healed, and the girl spends all her time out of doors, being able to go about, although she has not over much confidence in the shortened limb. A strong gutta percha splint protects the part. The length of the sound limb, from the tip of the superior spinous process to the heel, the foot being placed at a right angle to the leg, is twenty-nine inches; while the length of the other is twenty-seven. The anchylosis is in most respects of a fibrous character, but the motion is becoming less every week.

Remarks.—It is well worthy of notice that this operation was attended with very slight shock to the patient. She needed neither anodynes nor medicinal means to afford rest or create an appetite. From being the poor miserable child which she was prior to the operation, she is now in better health than she has enjoyed for many years; and there is every reasonable hope of an immunity from further attacks of the disease. Taking every particular into consideration, this case must be looked upon as a favourable example of the operation of resection when undertaken for the removal of a knee-joint impaired or destroyed by scrofulous disease.

Excision of the Knee-joint, in a Boy aged Nine Years, for Disease of Four Years' Standing; Removal of the Patella; Large Abscess within the Joint; Pulpy Degeneration of the Synovial Membrane and Destruction of the Cartilages; Favourable Progress Five Weeks after the Operation.

(Under the care of Mr. P. C. PRICE.)

James F——, aged nine years, an orphan, and an inmate of the workhouse since infancy, was sent to the sea-side from the Hackney Union, suffering from acute disease of the right knee-joint. No distinct history of the disease can be obtained from him, as he can neither read nor write, nor does he posses any information regarding himself. At the time at which the operation was performed, the following was the condition of the joint:—"The joint is much swollen, but the swelling is well defined. The integuments are greatly stretched, and have a white, glassy appearance, the superficial veins being much enlarged and loaded with dark-coloured blood. Intense pain is caused when the swelling is handled. The enlargement is confined principally to the front of the joint. There is distinct evidence of fluid in the joint, which is most probably pus. The leg is semi-flexed upon the thigh. The boy's health has began to fail him, and he suffers fearfully all the symptoms of extensive ulceration of cartilages."

Such a state of things demanded either amputation of the thigh or resection of the joint. Mr. Price was of opinion that the latter proceeding was the most judicious; and Dr. Price and Mr. Hovell, the surgeon under whose care the boy had been for some time, coinciding in that opinion, the operation was performed, under chloroform, on the 28th of July, 1856. The incisions to expose the joint were of the usual H shape. On opening the articulation, a considerable quantity of fine healthy pus escaped. The synovial membrane was of a dark purplish hue, much increased in substance, and gelatinaform in consistence. The lateral ligaments were much stretched; the crucial were apparently healthy; but the inter-articular cartilages were quite destroyed. The cartilage from the head of the tibia was destroyed at various spots, and the internal condyle of the femur was likewise ulcerated. About three-quarters of an inch of the condyles were removed, and the cut surfaces, excepting that they were softer than in health, and preternaturally vascular, were perfectly healthy. A good half inch was removed from the tibia. The patella, which was ulcerated on its under surface, was taken away, as Mr. Price was of opinion, judging from what he had previously seen, that the removal of this bone was attended with advantage in the after treatment of the wound. There was little or no bleeding from the soft parts, so that no ligatures were needed. The most troublesome part of the operation was the bringing the cut surfaces of bone into apposition. Owing to the contracted state of the hamstring tendons, and the indurated state of the tissues filling up the popliteal space, considerable force had to be used in overcoming the resistance; but with a little care the bones perfectly approximated without damage to the surfaces. The flaps of skin appeared to be too redundant, but they were nevertheless brought together with a few points of suture. The limb was placed on a splint, and fastened by rollers. Water-dressing was applied to the surface of the wound. On being put to bed, the patient experienced great pain for some hours. An opiate was rejected. Towards evening he felt easier, and at nine o'clock an opiate of morphine was given, which enabled him to pass a comfortable night.

July 29th.—Nine o'clock A.M.: Pulse 160; breathing somewhat hurried, and face flushed. Took no solid food during the day. Pain much abated.

30th.—Slept tolerably well, having repeated the opiate; pulse 150; is much better. Suppuration has commenced; the apparently superabundant skin has greatly retracted, and at points has united. The limb was swung to-day for the first time.

31st.—Going on satisfactorily in every way; pulse lower, and skin cooler.

August 3rd.—The patient is very troublesome, and can with difficulty be kept quiet. He has contrived to loosen the bandages, so that the thigh has been slightly moved from its former position, and it was necessary to put the entire limb up fresh.

7th.—A bed-sore has formed over the sacrum; he is very irritable; obliged to put a Liston's long splint on the outside of the limb, extending as high as the arm-pit, that he may not run any danger of disturbing the bones.

8th.—Still very irritable, but his appetite is improving. He still continues the opiate at night. The discharge of healthy pus is satisfactory.

12th.—Bed-sore is better, and the wound is progressing favourably.

20th.—A sore has formed on the heel over the insertion of the tendo-Achillis. The position of the limb is excellent; the discharge is healthy; he is still very irritable.

25th.—Heel still troubles him. The sore on the back has healed. Discharges freely.

30th.—Mr. Seward, who has the dressing of the case, states that his general health is better. The sore on the heel is progressing favourably. His appetite is better. The wound is doing well, and there is every prospect of a good recovery.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Dr. Chowne, President, in the Chair.

HÆMATOID CANCER OF THE UPPER CERVICAL GLANDS, INVOLVING THE PAROTID AND SUB-MAXILLARY.

Mr. Canton presented a specimen of the above disease, which he had removed after death, from a patient of his who lately died at the Charing-cross Hospital. The following are the particulars of the case: S. R——, aged sixty, a pale, emaciated female, with a cadaverous countenance, indicative of suffering, perceived a small lump beneath her left ear, about twenty years ago. It had never given her any uneasiness until four months since, when it became the seat of lancinating pains, and began to enlarge. At this time she was seen by Mr. Canton, in consequence of the case being considered by her medical attendant to be one of aneurism of the external carotid artery. The tumour, however, could be isolated from that vessel, was not equably pulsatile throughout, had been at first hard and was now becoming softer, was somewhat flattened and lobulated, and could not be diminished in size by pressure, &c. These and other considerations determined the case to be non-aneurismal, whilst its sudden and increasing enlargement, the character of the pain, the age and aspect of the patient, &c., led to the belief that the disease was most probably malignant. Four months passed over, and S. R—— again came to the hospital, with the tumour considerably enlarged and conical in form, base close to the parotid gland, apex directed forwards and slightly abraded. It was four inches in length, and five inches in circumference at its base, with a deep reddish-pink colour. In a few days the apex opened out and spread into a broad, fungating, sloughy, highly offensive, and hæmorrhagic mass, which still continued to expand and become, daily, larger. Several attacks of hæmorrhage, and continual oozing of blood, so exhausted the patient that she died at the expiration of three weeks from admission.

At the *autopsy*, the tumour was ascertained to have sprung from close to the base of the tongue, and implicated extensively the parotid, sub-maxillary, and some upper conglobate glands. The external carotid, and its facial, laryngeal, and thyroid branches were considerably enlarged. The larynx and pharynx were free from disease, as were also all the organs and viscera of the body.

The chief points of interest in the case Mr. Canton believed to be—1. The length of time (twenty years) that the tumour had remained quiescent. 2. The extreme rapidity of growth after its increase commenced. 3. The perfect immunity from disease of all other parts of the body.

Mr. **Jones**, of Jersey, exhibited to the Society a specimen of

DISEASED ULNA,

which he removed from the living body six weeks ago. His particular object in showing this specimen was to bring forward what he believed to be an unique case of excision of the entire bone, as both articulating surfaces, together with the shaft, were removed in one single piece. The subject of the operation was a female, aged twenty-five, who laboured under strumous disease for about eleven months. The local appearances were such as to indicate that the ulna was alone implicated. The operation was performed by making a longitudinal incision from above the olecranon, along the back of the bone to the styloid process; the soft structures were cautiously dissected from either side; then it was dislocated at the wrist, and dissection was then carried up in front of the bone up to the elbow-joint, and disarticulation was effected. No vessel of any moment required ligature. The whole of the shaft of the bone was more or less affected as far as the articulating surfaces. The patient has had no untoward symptom; the wounds have healed, and everything promises a speedy recovery with a useful arm.

Dr. **Radcliffe** read a paper

ON THE NECESSITY OF A STIMULANT AND TONIC PLAN OF TREATMENT IN EPILEPSY.

In this paper, the author related several cases in which a stimulant and tonic plan of treatment had been employed with apparent benefit. Before doing this, however, he directed attention to a point of some significance both theoretically and practically, and this was, the marked improvement in the feelings of the patient which was noticed as having taken place in more than one instance *after dinner*. More than once the patient had made this remark spontaneously, and he always made it when questioned upon the subject. This point is not always noted in the cases, but the author did not remember a single exception to the statement. Now, this point, it is argued, would seem to be a point of some significance both theoretically and practically, for (if the feelings of the patient can be taken as any guide) this improvement after dinner must show that abstinence is not the rule of the treatment in epilepsy. Certainly, prudence is required in arranging the meals of an epileptic, and especial care must be taken to prevent any over-loading of the stomach, but not less certainly is an empty stomach to be dreaded. *Cæteris paribus*, there is no sound practical reason for supposing that an epileptic ought to eat and drink less than another man, and there is some reason to the contrary. At any rate, there is no reason for supposing that he ought to drink less. The author was very incredulous as to any case of epilepsy to which these remarks did not apply. These remarks did not apply to all cases of an epileptoid character, but they applied, he believed, to all cases of real idiopathic epilepsy. Indeed, he had found that the supposed exceptions to this rule would never bear examination. Dr. Radcliffe also referred to the manner in which improvement is generally manifested in epilepsy. It did not seem to be the rule, he said, for improvement to be manifested in the gradual mitigation of the convulsion. On the contrary, the rule would rather seem to be for the general health to improve gradually, and for the sopor following the fit to become less and less profound, and less and less prolonged, until the patient wake up immediately after the fit, or even retain his conciousness throughout the fit, the fit in this way becoming more and more transformed into the milder type of hysteria. Unquestionably, the convulsion may cease gradually, but the ordinary rule is rather that it ceases more or less suddenly at some point in the process of recovery; and this ought to be borne in mind, or much disappointment may ensue to both patient and practitioner. We report two of the cases read.

Case 1.—Mr. C——, aged forty. During the last fifteen or sixteen years, this patient has been engaged as clerk and collector, and for a considerable portion of this time he has walked upon an average, about twenty miles a day. This was the case until within a few months ago, when, his strength having failed, he became continuously engaged in in-door work. The first epileptic seizure was five years ago, the immediate occasion being the fright and grief consequent upon seeing one of his children killed under the wheel of a carriage; and since this time the seizures have recurred at continually shortening intervals, until these intervals are rarely shorter than a week. The fits are generally violent. They occur generally in the night, and the exhaustion following them is often sufficient to prevent him from going to his work on the following day. Mr. C—— is very abstemious in his habits, and for some time has been a rigid teetotaller. He is always better after dinner.

Dec. 9th, 1852.—His whole appearance is that of a man greatly exhausted, and much older than he really is. The countenance is pale, and the expression inanimate; the pupil somewhat large and sluggish: the pulse slow (65), and very weak. For some time after the attack he passes a quantity of pale urine, and he is very excitable. He was recommended to live more generously, taking malt liquor to his dinner and supper, and to have a draught containing half a drachm of naphtha three times a day. He was also recommended to walk no more than he could possibly help.

Jan. 27th, 1853.—Much better. There have been two fits during the last month. No alteration in the treatment.

March 3rd.—Much better. He says that he occasionally walks over in an evening to a brother who lives in the neighbourhood, and has a glass of whiskey-and-water with him, and that he has a much better night, and is none the worse the next day, when he does this. He has had two fits since the 27th of January. No alteration in the treatment.

July 12th, 1855.—Mr. C—— looks many

years younger than he did when he called two years ago, and he has altogether lost the pale and exhausted expression of his countenance. It appears that he has been carrying out the prescribed treatment, more or less assiduously, ever since he saw me last, and that the interval separating the fits became longer and longer until the last interval was full seven months. At present, however, he is not so well, and this alteration he ascribes to his having been obliged to resume his old walking habits. He had walked not less than twenty miles the day preceding his last attack. He was recommended to live more generously while the necessity for walking continued and to return to the naphtha.

Oct. 15th.—No fit. Much better in every respect.

Case 7.—Sarah S——, aged thirty, an out-patient of the Westminster Hospital. All that can be learnt of the history of this patient is, that her mother died in a lunatic asylum, and that the fits, which began about sixteen years ago, have been becoming more and more frequent during the last seven or eight years. Formerly she was able to help her father, who is a tailor, but lately she has been altogether incapacitated from any regular work by almost constant headaches. She has always lived very abstemiously, taking large quantities of tea.

Nov. 10th, 1853.—The countenance is heavy and dull, presenting numerous epileptic ecchymoses; the pupil is dilated and sluggish; the pulse 69, and very small and feeble. In the morning she is particularly stupid and headachy, and her hand is very tremulous; but these symptoms pass off after dinner, or are greatly relieved, and this is her daily experience. She had a fit this morning while in the act of getting out of bed, and this, she says, is a time when the fits frequently happen. She was ordered to leave off tea, and to live more generously, taking a glass of beer with her dinner, and another glass with her supper; she was also ordered to take an ounce of the hospital mixture of quinine and steel, with half a drachm of chloric ether three times a day.

17th.—Since adopting the practice of taking supper she has slept more soundly, and awakened refreshed in the morning, and certainly her appearance is more lively. One fit. No alteration in the treatment.

20th.—She had a fit while waiting at the hospital. This was of considerable severity, the face being greatly congested, the tongue bitten, and the subsequent sopor enduring not less than twenty minutes. It appeared that she had had a long walk, and then foregone her dinner for fear of being too late at the hospital. One fit during the week. The same treatment.

Dec. 4th.—Pulse improved; countenance much more animated; appetite returning. During the last week she has been able to sew a great part of the day without experiencing the usual fatigue or headache. One fit since the last visit; no alteration.

12th.—Still improving in her general health; no fit since the last visit; no alteration.

20th.—Still improving; no fit. Continue.

30th.—Still improving; one fit. Continue.

Jan. 26th.—Still improving; no fit. Continue.

Feb. 23rd.—Greatly improved; two fits since the last visit. Continue.

March 28th.—Still improving; no fit. Continue.

April 20th.—This morning Sarah S—— looks quite fresh and lively. She has lost the old congestion that used to be under the eyes and forehead, and there is no trace of ecchymosis; she eats and drinks and sleeps well, and her work is no longer a burden to her; she is satisfied also that her memory is clearer, and that she recovers from a fit much more rapidly than she used to do. There has been one fit since the last visit, about three days ago.

After this time the patient continued to call at the hospital during a period of more than twelve months; but she made no progress beyond this point. She continued to follow the same rules of living, and occasionally took a little medicine of the kind prescribed at first; but, as a rule, she took no medicine, having got tired of it. In the colder part of last winter she suffered considerably from the weather, and in one week she had four fits, all during the night. These sufferings, she says, were lessened, and the fits became diminished in number, after adopting the practice of taking her beer at night hot and with a little ginger in it.

A discussion ensued, in which several members took part.

UMBILICAL FISTULA GIVING PASSAGE TO GALL-STONES.

Mr. **Canton** mentioned the following particulars of a case of this description:—A lady, aged thirty-five, arrived from Barbadoes, and was placed under his care, suffering from great weakness and leucorrhœa. A few years previously she had given birth to a healthy boy, and had since then had a daughter, and experienced one miscarriage. Whilst abroad she had been under medical treatment for enlargement of the liver, and once suffered for some hours with excruciating agony in the abdomen. No calculus was known to have been afterwards voided by stool. On arrival in England, besides the symptoms spoken of, she referred to a tumour within the lower part of the body, on the right side. On examination, a hard, rounded substance, about the size of a small orange, and readily moveable, was felt within the pelvis, in the situation of the ovary, which was considered to be enlarged to constitute the swelling. Dr. Henry Davis now took charge of the patient, and, having made a vaginal examination, arrived at the same conclusion as Mr. Canton, and treated the case accordingly. No amendment followed, and on the formation and spontaneous bursting of an abscess at the umbilicus, the supposed ovarian tumour was no longer to be discovered by examination without or within. After two days' discharge of pus unmixed with bile, from the navel, an angular gall-stone presented itself in the wound, and was removed. The calculus was dark-coloured and many-sided. The patient was again placed under Mr. Canton's care, and after the lapse of a few months a second calculus came to the surface by the same route as the former one, to which it bore a close resemblance. The orifice at the umbilicus daily yields a rather large quantity of pure pus, and analysis shows no admixture of bile. Little, if any, inconvenience is experienced by the patient, whose health continues excellent, and to its maintenance in this state the treatment bears especial reference. Mr. Canton explained to the fellows, by means of the preparations he presented, that it was most probable in this case the gall-bladder was infarcted with angular calculi; that a larger stone still had completely blocked up the orifice of the cystic duct; that the gall-bladder had become, as it were, converted into an abscess, the walls of which, after adhesions had obtained between them and the umbilicus, had given way at this latter spot. The patient was seen by Dr. Budd, of King's College, in consultation, and the above explanation of her case given in opinion; whilst a belief was entertained that many other calculi would probably have yet to be voided, and that the gall-bladder, contracting in proportion to their extrusion, would eventually become obliterated.

Mr. **Weeden Cooke** enquired how, if Mr. Canton supposed rightly, the patient could continue to live with a gall-bladder not fulfilling its office?

Mr. **Canton** referred to a case he had published of congenital deficiency of this viscus, where the subject lived for sixty years, and also to many animals who were always wanting in a biliary reservoir.

Dr. **Andrew Clark** exhibited

A SPECIMEN OF ENCEPHALOID CANCER OF THE RIGHT LUNG.

The specimen was one of great clinical as well as pathological interest; but as the time allotted to communications had all but expired, only the leading features of the case were given. The subject of the tumour was a young man of twenty-two years of age, of a very phthisical aspect and a member of a phthisical family. It appears that he had for some time laboured under the symptoms, which resembled those of phthisis, to which they were ascribed. Before death, the patient wasted rapidly, had night sweats, diarrhœa, and repeated attacks of hæmoptysis, under which he finally sunk. Dr. Clark had found no account of any physical examination of the chest. The tumour was removed from the body in the dissecting room. It was contained in the upper part of the right lung, and attached to the corresponding ribs. It was about four inches in diameter, irregularly spherical, and very indistinctly defined; in fact, it merged gradually into the surrounding lung substance. The tumour exhibited all the naked-eye and histological characters of encephaloid cancer. The central part was opaque, yellow, and friable, and admirably illustrated the curative metamorphosis by saponification. The surrounding parts were soft, white, here and there mottled by patches of extravasated blood, and infiltrated with a creamy juice. The circumference of the tumour consisted of a number of pseudo-cysts filled with what appeared to be coagulated blood. Each hæmorrhagic extravasation appeared to be a starting point of new growth. Every part of the tumour exhibited that combination of cell forms which *collectively* characterise encephaloid cancer. In the central part of the tumour the cell forms were withered, filled with fatty and earthy particles, and mixed with cholesterine. In the hæmorrhagic extravasations the cell forms were very numerous, varied in form, multi-nucleated, tumid, and evidently in a state of active development. The air vesicles, for some distance round the tumour, contained cancer cells on the free surface of their lining membrane. The bronchi leading from the tumour contained a matter which, to the naked eye, appeared like tubercular pus, but which, under the microscope, exhibited the cell forms characteristic of soft cancer. Among the points constituting the peculiarity of the case, Dr. Clark mentioned that the tumour was single, not isolated by a capsule, and exhibited at one and the same time arrestment in the centre and active development at the circumference, by means of hæmorrhagic extravasations. He further noticed the presence of cancer cells on the free surface of the air vesicles and in the neighbouring bronchi, as a fact of great rarity and importance. Moreover, no similar tumour was found in any other part of the body. It was a primary and solitary cancer occurring in the lung. Dr. Clark finally observed that if the expectoration had been examined during life the disease might have been recognised by that test alone. He had done this himself in a former and somewhat analogous case. He begged, however, to observe that it was not from the presence of any one form of cell alone that cancer could be so recognised. It was to be recognised only by the presence of a number of variously-formed cells, exhibiting signs of active development and unrestrained growth, associated with much fat and other matters. Discussions upon the diagnosis of cancer usually left the real point untouched. One party asserts that there is no cell form characteristic of cancer, and the other asserts exactly the reverse. It is a fact that there is no *one* cell form in cancer which may not be found in other and harmless growths; but it is equally a fact that the concurrent series of cells found in cancer, and the conditions under which they are presented, are found nowhere else, and, taken in their totality, are perfectly sufficient for the diagnosis of this morbid product.

Mr. **Hancock** exhibited the femur of a patient, aged twenty-four, from whom he removed the limb at the hip-joint, five weeks ago, for necrosis. The patient is now well.

Mr. **Rogers Harrison** related the case of a healthy man, who suddenly, after the extraction of a decayed tooth, which had kept him awake two nights, fell into a most profound sleep, which continued two hours. He was quite conscious when roused, but was unable to keep awake. He had not taken chloroform, or any stimulant previously.

Dr. Snow remarked, that this case showed the importance of care in arriving at a conclusion. Had this man taken chloroform, the sleep would have been attributed to that agent; and, had he died, his death would have been regarded as the result of chloroform.

CASES OF IDIOPATHIC TETANUS IN CHILDREN.

Dr. Winn related the particulars of two remarkable cases of tetanus which had recently occurred in his neighbourhood. The first was that of a little girl, aged eleven, whom he saw in consultation with Mr. Theed. After a trifling indisposition of a few days' duration, marked by febricula and diarrhœa, she was suddenly seized, whilst perfectly conscious, with the most alarming symptoms of tetanus. The paroxysms of opisthotonos were extremely violent, and recurred on the slightest movement of the body. Towards the close of the disease, coma supervened, accompanied by intense injection of the conjunctivæ, suffusion of the face, and violent action of the heart. For the relief of these symptoms (which were probably only the effects of pressure on the blood-vessels during the violent muscular contraction), about four ounces of blood were abstracted. After the venesection, the spasms abated, and a small quantity of fluid was introduced into the mouth. The relief was, however, only temporary, and the child rapidly sank. On making inquiries of the relatives, Dr. Winn ascertained that the child had suffered twice in her life from fits of an epileptiform character. This fact appeared to show some connexion between the proximate causes of epilepsy and those of tetanus. For the particulars of the second case, Dr. Winn was entirely indebted to Mr. Theed. A very few days after the occurrence of the preceding case, the latter gentleman was summoned to see another little girl, five years old, who had been seized, after a short and slight febrile attack, with tetanic convulsions of a much more aggravated character. During the paroxysms of opisthotonos, the back was bent into a complete curve, and the occiput and heels came in contact. This child, as in the other case, was conscious at first, but became comatose shortly before death. Had any one been interested in the deaths of these poor children, which was not the case, Dr. Winn would have suspected poisoning by strychnine. Considering the very rare occurrence of idiopathic tetanus in children, the almost simultaneous appearance of two cases in the same neighbourhood was a point of great interest.

DEATH FROM CHLOROFORM.

Dr. Kidd mentioned a case in which death had followed the administration of chloroform, in a sailor, of a nervous, unhealthy constitution, whose finger was about to be amputated for necrosis. Nothing peculiar was observed in the symptoms resulting from the inhalation of chloroform, except the occurrence of an epileptiform seizure, during which the man died. Dr. Kidd thought that the case showed that the direct and first action of the poison was on the nervous system, the brain being in a state of anæmia, and the heart free from fatty degeneration or any other disease. He considered that chloroform was contra-indicated in persons subject to any kind of fits. This man had been the subject of delirium tremens. Dr. Kidd referred to chloroform as a test for epilepsy, and to the experiments made in France on this subject. If a patient feigned to be the subject of epilepsy, the administration of chloroform did not induce a seizure; whilst the contrary was the effect when the patient was really the subject of that malady.

Dr. Gibb remarked that in the case detailed there was fatty degeneration of the heart.

Dr. Kidd had examined a portion of the heart, but could not find any fatty degeneration.

Mr. Weeden Cooke had cured two cases of delirium tremens with chloroform, without the aid of opium.

Dr. Snow had administered chloroform both during and after a fit of delirium tremens, in several cases, without any bad results. He had given it, also, to persons subject to epilepsy, without any ill effects. He reprobated the plan of attempting to test the occurrence of epilepsy in a person by chloroform. It was no test, and was a most unjustifiable proceeding. He had often given chloroform to persons subject to epilepsy, and they had become quietly insensible and slept as did other patients. In the case related by Dr. Kidd, the patient died with all the symptoms of an over-dose of chloroform; the agent had been administered by means of a sponge, so that its strength could not be determined.

SRICTURE OF THE RECTUM AFTER DELIGATION OF INTERNAL PILES; DROPSY OF BOTH FALLOPIAN TUBES.

Mr. Canton related the following case, and presented the above specimens in illustration. A female, aged forty-three, was admitted into the Charing-cross Hospital, in a dying state. Her abdomen was considerably swollen from tympanitis, and excessively painful on the slightest pressure. The bowels had been unrelieved for a fortnight; the pulse was feeble and faltering; and, in a few hours, she died. The patient had been married for eighteen years, but had never had any children, and lived a very intemperate life. Two years ago, she had ligatures applied to some internal piles, and since that period suffered from constipation and pain in the abdomen. For two weeks before her death, she had been with her husband, a bargeman, on the water, and was unable to obtain relief from her confined state of bowels, with return of abdominal pain.

At the autopsy, Mr. Canton found a stricture of the rectum within digital reach, and sufficiently open to allow of the introduction of the tip of the little finger. The bowel above was greatly distended with gas, and partially filled with soft scybalæ; it was superficially ulcerated within, for the extent of two inches above the constriction, which was due to general contraction and condensation of the coats of the gut, and the areolar texture around it. No malignant disease existed. The colon, in its whole length, was enormously insufflated, and the abdomen contained two or three ounces of turbid, sanguinolent fluid, in which floated numerous flaky pieces of lymph. The uterus was of virgin size and form, and the os tincæ small and circular. The Fallopian tubes were very long, much convoluted, infundibuliform, greatly distended with a clear fluid, and translucent. After a few coils upon itself, each tube ascended behind the broad ligament, and at its most expanded abdominal end became attached to, by its walls, and continuous with, the peritoneal covering of the ovary. All trace of fimbriæ was lost. The right ovary was dilated into a cyst the size of a chesnut, by a clear fluid, and enclosed by cincture of the Fallopian tube. The fellow organ was only partially cystic, but encircled in the same manner as the left one. Only one filmy band of false membrane existed, passing across the lower part of the recto-uterine cul-de-sac.

Mr. Wm. Adams had examined the preparation, and did not regard it as one simply of dropsy of the Fallopian tubes. In this case, the position of the ovary was occupied by a cyst, the Fallopian tube terminating in the cyst. He had met with two or three similar cases in the dead-house of St. Thomas's Hospital. He could not explain the condition. He had seen the cyst occupying the position of the ovary as large as the fist. There was no appearance of inflammation in these cases.

PATHOLOGICAL SOCIETY OF LONDON.

Mr. Arnott, President, in the Chair.

Mr. Curling exhibited a specimen of

RECURRENT FIBROUS TUMOUR OF THE GASTROCNEMIUS,

from a girl, aged nine years, in which amputation was performed above the knee. It was brought forward to complete the history of a tumour shown by Mr. Nathaniel Ward in March, 1855, and described in the sixth volume of the Society's "Transactions." The patient was admitted into the London Hospital on the 16th of September, for a tumour in the calf of the leg. From the account of the case given by Mr. Ward, in the "Transactions," it appears that the patient was admitted in March, 1855, under the care of Mr. Curling, for talipes equinus. The heel of the left foot was very much raised, and the leg slightly flexed upon the thigh; the tendo Achillis was very tense. In the situation of the belly of the gastrocnemius, a hard tumour, the size of a walnut, was noticed, causing considerable elevation; but the extent of its attachment could not be fully made out. The mother of the child stated that the deformity had been progressing for more than four years. It was first noticed about ten months ago. Mr. Curling made a longitudinal incision over the belly of the gastrocnemius, and exposed, beneath the most superficial fasciculi of the muscles, a fibrous tumour. Its boundary limits were well defined, although it had appeared, prior to the operation, to have been so circumscribed as not to have suggested the probability of any difficulty in its enucleation. Its circumference, however, extended irregularly into the substance of the muscle, so that to have removed it entirely would have been to have taken away almost the entire belly of the muscle; its prominent central portion only was removed in consequence. The part removed was two inches and a half in diameter, and rather more than one inch in thickness. Its external surface was rough, firm, and fibrous at one part, loose and fatty at another. Several vessels entered the tumour at different parts; it was firm, but compressible. On section, it exhibited the physical appearances of a fibrous tumour, and running through it were different muscular bundles, separated by intervals occupied by the fibrous growth; the fibrous change appearing to have affected the interfascicular connective tissue of the muscle. Dr. Andrew Clarke, on microscopic examination of the tumour, pronounced it to be recurrent fibroid tumour. On her readmission, there was found in the calf of the left leg a hard defined tumour, consisting of hard nodules, adherent to the cicatrix from the previous operation. The head of the fibula was very prominent, owing to the wasting of the muscles. It was impossible to determine whether the tumour was confined to the body of the gastrocnemius, or extended to the deeply-seated muscles. On the 9th of October Mr. Curling proceeded to operate, intending to excise the gastrocnemius, if the disease was limited to that muscle. He commenced by making two curved incisions, beginning at the top of the popliteal space and extending about eleven inches, whereby the integuments, including the old cicatrix, were isolated over the tumour. Upon endeavouring to detach the gastrocnemius, it was found that the disease had extended to the soleus and deeper textures; and, a consultation of the surgeons having been held, it was deemed advisable to amputate, which was immediately done, at the lower third of the thigh. The patient was going on favourably. On examination of the leg, the tumour was found to extend from the popliteal space to the middle of the leg; its shape being pyriform, with the base above and the apex below. The under part of the tumour involved the deep flexors of the leg, and was connected with the interosseous membrane and the periosteum of both tibia and fibula. The tumour consisted of irregular spherical masses matted together. The cut surfaces were pellucid, firm, and granular. The muscles of the thigh were quite free from disease. The morbid growth was carefully examined by Dr. Andrew Clark, and its minute characters were found to be similar to those which he observed in the tumour first removed by Mr. Curling in March, 1855.

Mr. Coulson wished to know why the original tumour was considered fibroid.

Dr. Andrew Clark would explain that. He examined the tumour, and found it was really a fibrous tumour, but not having the usual characters of fibrous, and he was of opinion that it would recur. On examining it, he found it filled with nuclei, and that the tissue surrounding it was also filled with those nuclei. If the tumour had been removed at a greater distance from its seat in the first instance it would not return. Now that it was much further removed, it would not return. The fact of the nuclei being found in the edges of the wound after the tumour was removed justified him in saying that after the removal of the original tumour it would return.

Mr. Wm. Adams, for Mr. Price, exhibited a specimen of

COLLOID CANCER,

which had been removed on Saturday by Mr. Price from the breast of a patient, aged fifty-four. She had been married, but did not have any children. The specimen was exhibited at the Medical Society of London on Saturday, as a case of "Scirrhus merging into Fungus Hæmatodes." On the motion of the President, Dr. Andrew Clark and Mr. William Adams were appointed to report on the specimen.

Mr. Leggatt showed a specimen of

SOFTENING OF THE SPINAL CORD IN CONNEXION WITH FATTY DEGENERATION OF THE MUSCLES OF THE UPPER EXTREMITY,

removed from a young man, eighteen years of age, who died the previous day. Up to five years of age he was healthy, when he had an attack of jaundice, followed by measles. He never got strong, and had not got perfect use of his legs. Sir Benjamin Brodie was requested to see him in 1848, and supposed that spinal disease existed. Sir Benjamin saw him again in 1850; in the meantime he had seen cases of a similar nature, which proved to be cases of fatty degeneration of the upper extremities. On post-mortem examination, the upper part of the spinal column was healthy, but the under part was soft. The patient died of pneumonia, with which he was attacked a week ago. All the organs and the viscera were healthy, and his mental faculties were also good.

The President.—Was that the only one of the family so affected?

Mr. Leggatt.—Yes.

Mr. Shaw.—Were they all males?

Mr. Leggatt.—Yes.

Dr. Quain.—Was there any appearance of inflammation or vascularity in the neighbourhood of the softened structure?

Mr. Leggatt.—No, but there were old adhesions of the peritoneum in the abdominal cavity. The legs were the only parts affected with paralysis; the hands and arms were free from any affection.

The President saw one of the cases referred to by Sir Benjamin Brodie, and the legs only were affected. There were four in one family in that condition.

Mr. Shaw wished to know if there was wasting of the muscles.

Mr. Leggatt.—At first the extremities were fat, and afterwards they became thin and deformed. The paralysis came on slowly.

Dr. Hare.—Those progressive cases of paralysis are very unsatisfactory. Some time ago, a case was under his care, in the University College Hospital, in which the upper extremities only were affected; there was complete wasting of nearly all the upper extremities, and the hands dropped, but the patient left the hospital as he entered.

Dr. Gibbon wished to know if there was any pain or tenderness of the muscles of the limbs, or in the spine.

Mr. Leggatt.—No, there was no tenderness complained of.

Mr. Henry Thompson exhibited a tibia after

ACUTE OSTEITIS AND PERIOSTITIS.

J. D——, aged fourteen, admitted to the Marylebone Infirmary three days after receiving a kick on the shin, not severe. The limb was pale and œdematous, and much pain was complained of, and there was constitutional disturbance. Soon matter was detected, and evacuated by free incisions, down to the bone. In three weeks from the accident, the knee-joint became involved, an abscess formed opposite the lower end of the femur, and femoral phlebitis occurred. The discharge becoming very great, and the patient weak, Mr. Thompson amputated the thigh at the junction of the lower with the middle third, exactly four weeks after the receipt of the injury.

Examination of the limb.—The upper half of the tibia is detached from the soft parts around, and bathed in pus containing fragments of disintegrated tissues. The cavity of the knee-joint contains pus also, and communicates with a large abscess situated opposite the lower part of the femur at the inner side.

Condition of the tibia.—The upper three-fifths of the bone is of a yellowish colour, denuded of periosteum, and obviously in a state of necrosis, excepting a thin layer of the outer portion of the head, which is in contact with periosteum, and maintains its vitality. The larger part of the head is necrosed, and its upper surface, in the cavity of the joint, is denuded of articular cartilage, portions of the latter being attached to the borders of the articular surface, loosely overlying the dead bone. The periosteum of the shaft has disappeared entirely from the necrosed portion, but below this, upon the sound part, it remains. On detaching its free edge, and dissecting it backwards from its sub-periosteal attachments, a line of demarcation between the sound and the dead bone is very manifest, a narrow and shallow groove existing, filled with pus. Besides this, the reflecting of the periosteum brings the following into view: a pink layer of bony matter, about the twelfth of an inch thick, freshly deposited, covers the whole of the healthy shaft to the distance of two or three inches from the dead portion. Its presence is limited strictly by the existence of healthy periosteum and bone, between which two it has been deposited as a layer. At one point, firm spiculæ project from the free edge of the layer, and overlap the dead bone. It is obvious that, although a period of thirty days only had elapsed between the receipt of the injury which gave rise to the necrosis and the examination of the bone thus described, a very extensive amount of reparative action has been set up. From the apparent vascularity, not only of the periosteum, but of the healthy bone, it might be inferred that both structures have contributed, perhaps equally, to the formation of this new layer interposed between them. A portion of the newly-formed osseous tissue was placed under the microscope, showing the deposit of earthy matter to be taking place into a fibrous matrix, precisely after the manner of the ossification process as it occurs in the flat bones, and which is distinguished by the term "intra-membranous ossification.'

Mr. Fergusson showed

A FOREARM AND HAND, IN WHICH EXCISION OF THE WRIST WAS PERFORMED.

The case from which it was removed came under his observation eight months before. The bones and joints were extensively diseased. The case was one in which amputation would probably have been performed, but he suggested resection, to which the patient consented, and the operation was performed. Erysipelas supervened, from which recovery soon took place. Disease of the lungs was suspected, and the patient sent into the country. On his return to London, the patient was re-admitted to the hospital, when disease of the lungs was clearly found to exist, of which he died six months after the operation. The case was interesting as showing that it would be supposed that all the bones were still present, but there were only the trapezium and pisiform. The operation was performed by only one incision on the ulnar side of the joint, which Mr. Fergusson said he had ascertained, from the experience of many other cases, was more easy of performance than if one free incision and two smaller ones were had recourse to, as is usually done. He said that in this case no anchylosis was in progress, and it was doubtful which event would be most desirable after the operation.

Mr. Pollock exhibited a specimen of

FATTY TUMOUR,

removed by him from the back of a child, seven years of age, at St. George's Hospital a few days before. The little patient was sent to him by Mr. Bennett, of New Radnor. The tumour was first noticed by the mother of the child when it was eighteen months old; it soon began to increase in size until its removal on Thursday last, when it weighed twelve pounds. On examination before the operation, it had a lobulated appearance, and from its external feeling it was doubtful whether it was fatty or fibro-cellular, but he was of opinion that it was fibro-cellular. On examination of the tumour after its removal, it was found to be made up of fatty lobes, with fibrous tissues running in between them. Here and there hard masses were found, as if their structure was solid, but these appeared to be produced by the continuation of the fibrous bands compressing the fat. Mr. Pollock exhibited a cast and photographic drawings of the tumour before the operation. He stated that half of it had been forwarded to the College of Surgeons.

Mr. Pollock also showed

THE LEG OF A CHILD WHICH HAD BEEN TORN AWAY BY A CAB-WHEEL FROM ABOVE THE KNEE.

The accident occurred to a child which had been riding behind a cab, when its leg was caught by the wheel, and completely severed. The child was taken to St. George's Hospital, and, on examination, it was found that, in addition to the removal of the leg, the femur was fractured about three inches above the condyle. The hæmorrhage was not very great at the time, and there was no difficulty in arresting it. Mr. Pollock removed the femur from above the fractured part. The sciatic nerve was found to be torn away from within the pelvis. The child died forty-eight hours after the operation. The bladder was ruptured, and there was fracture of the pelvis. The sacral plexus was found shreddy. On binding up the flaps, and passing the needle through the anterior one, sensation was perfect, but there was no sensation in the posterior. Death occurred from rupture of the bladder; extravasation of urine was found to exist to some extent.

Dr. Quain presented a specimen of

ENCEPHALOID DISEASE OF THE LUNG,

removed from a woman, thirty-four years of age, who was admitted under his care, at the Brompton Hospital, in March last. She had been a cook in a gentleman's family for some years. Ten years before her admission, she was seized with spitting of blood, which weakened her generally, but did not otherwise affect her. Two years after, she was attacked with severe cough and loss of voice. When admitted into the hospital, she complained of severe cough, general debility, bronchitis, and loss of voice. There was dulness over the left lung, with feeble respiration through its extent; pain in the mediastinum, with difficulty in swallowing, and a loud murmur occupying the first sound of the heart, behind the first bone of the sternum. From the symptoms, the case was at first supposed to be one of aneurism, but further examination showed this not to be the case. It was then looked on as one disease existing at the root of the left lung. One day, whilst she was at dinner, there was great difficulty in swallowing; and, in two days afterwards, a mass of meat, one inch and a half long, and one inch wide, was thrown up. This appeared to have been for some time in the œsophagus. By the removal of this mass the patient had relief for some time. In about six weeks, the difficulty of swallowing again returned, and the patient was obliged to be supported with beef-tea and stimuli administered by injections principally, until her death.

On post-mortem examination, a tumour was found at the root of the left lung, pressing on the left bronchus. It got between the arch of the aorta and the bronchus, and produced puckering of the aorta; it pressed also on the œsophagus, so as not to admit of the passage of a bristle. The recurrent nerve was found to pass behind the tumour. The microscopic characters of the tumour were those of undoubtedly malignant disease. The disease in the substance of the lung, though resembling tubercular, was of the same character as the tumour. The aortic valves were but two in number, but did not alter the sounds of the heart. None of the other viscera were affected; and the right lung was perfectly free from disease.

Mr. S. Wells showed a specimen of

FRACTURE OF THE OS CALCIS,

from a man, who fell, while intoxicated, from a wall nearly thirty feet high. Next morning, he was admitted into the hospital, when the front part of the leg was very much swollen. Matter formed and some bone came away. This accident, the result of muscular action, was first described by Malgaigne, and he (Mr. Wells) had seen two other cases of a similar nature. The most remarkable appearances present, are great swelling, and flattening of the foot, with elevation of the heel. The patient did well by rest and good position, and subsequent use of the starch bandage.

Mr. Wells also showed specimens of

NECROSIS AFTER FROST-BITE,

from a patient seen by him in one of the Eastern hospitals. One had been removed by operation, and the other had separated without any interference. The plan of non-interference was carried to too great an extent during the late war. He believed that removal by operation was in many cases the best, and was generally attended with much more rapid recovery.

Dr. Ogier Ward exhibited a specimen of

MALFORMATION OF THE ŒSOPHAGUS AND TRACHEA,

from a child born at the full time. It lived eleven days and showed appearances of cyanosis. There were no signs of difficulty of swallowing for eight days. It died on the eleventh day, from inanition, no food having been swallowed. A probang could not be passed. On post-mortem examination, the œsophagus was found to be impervious. The foramen ovale and ductus arteriosus were open, and meconium was found in the stomach. Cyanosis was greater in the upper than in the lower part of the body.

Dr. Buchanan exhibited

A CYSTIC TUMOUR FROM THE GASTROCNEMIUS,

taken from a woman, thirty-three years of age. It appeared to be made up of fibro-fatty matter, and contained eight or ten ounces of dark material, evidently altered blood.

Dr. Wilks exhibited a specimen of

CURED ANEURISM OF THE HEART,

taken from one of his patients, who died in Guy's Hospital from phthisis. The man was fifty-two years of age, and gave no other history of himself than that relating to his recent pulmonary symptoms. There was nothing remarkable observed with reference to the action or sounds of the heart. After death the lungs were found to be disorganized, and there was tubercular ulceration of the ileum. Upon proceeding to remove the heart, it was found firmly adherent by the apex to the diaphragm, and by the lower part of the anterior surface to the pericardial sac. When taken out, a hard, bony tumour, the size of a pigeon's egg, was found attached to the apex, and in close union with the tissue of the heart itself. Upon incision, it was found to be composed of a thin but extremely hard, bony case, and the interior was filled with fibrin of a light and transparent appearance, except at the lower part, where it was slightly coloured by hæmatine. Upon removing the fibrin, an oval opening, a quarter of an inch long, was seen at the bottom of the sac, and passing directly into the left ventricle. This opening was perfectly smooth, and covered by a dense serous membrane, which was continuous with the endocardium on one side, and the lining of the bony cyst on the other. This appeared, then, to be a case of true aneurism of the heart, in which a perfect cure had taken place, and the patient died several years aftewards of another disease.

Dr. Wilks also showed a

CASE OF BONY GROWTH ON THE HEART.

This was an old specimen, belonging to Guy's museum, which had been bought at the late Joshua Brooke's collection, and which Dr. Wilks exhibited to the Society in order to gather any suggestions as to what might be its probable nature. It was described in the catalogue as an osteo-chondromatous tumour of the heart, and no further particulars given. The specimen consisted of an adult healthy heart, having upon its anterior and right side a large tumour the size of the closed fist. This consisted of a membranous sac, having within a network of bony rods or spiculæ running in all directions throughout it, the latter being composed of true osseous tissue. It had no communication with the heart or coronary vessels, and was either the bony skeleton of a new growth, or was a congenital tumour—that is, the remains of an included ovum attached to the heart.

Dr. **Salter** exhibited

A DISEASED HEART,

from a child, aged thirteen, who had been a patient of his in Charing-cross Hospital. During life, the amount of endocardial mischief was obscure on account of pericardial rubbing; but mitral regurgitant disease, if not double mitral, was diagnosed some time previous to death, and the morbid anatomy showed after death that the conditions for the production of all these sounds existed. All the valves were diseased, the right as well as the left side; the valves of the pulmonary artery the least, the mitral valve the most. This last was, by the agglutination of the two cusps to each other, converted into a narrow ring, through which the extremity of the finger could barely be passed. This must have given rise to great obstruction; whilst the contraction of the smaller blade of the valve, and its adhesion to the wall of the ventricle, allowed tolerably free regurgitation. But the chief interest of the case lay in its history—in the fact, that these extensive results of inflammation were unattended by any recognisable acute attack. The child had never had rheumatic fever, or even rheumatic pains of any decided character; but, though diminutive and pallid, had always enjoyed good health. Last Christmas she caught a cold, which left a little cough, but did not confine her to the house, or interrupt her at the dance at school a single day. From this time she noticed palpitation, and a slight pain in her left side. This, with a slight dry cough, gradually increased till May, when she applied for relief. The case terminated fatally in the last week of October, nearly six months after admission; and the principal features of its course were extreme dyspnœa, universal dropsy, rupture of cutis in the legs and back, and continual draining of serum, great emaciation, and final sinking. Dr. Salter observed, that this history implied, as the essential pathology of the case, one or two alternatives, either of which was interesting: either that the apparent cold at Christmas was really a rheumatic attack, in which there were no articular manifestations, but in which the rheumatic inflammation fell entirely on the heart (and he believed the existence of such cases was disputed); or else the poison of catarrh is capable of producing inflammation of the heart, as well as that of rheumatism. Seeing the many points of analogy between catarrh and rheumatic fever (in causation, pathology, symptoms, &c.), this last supposition appeared to be very probable. These views, if correct, would tend to explain the so-called cases of "spontaneous" and "latent" heart disease in children, and to diminish, in respect to the heart, what the present advances in pathology are constantly decreasing—idiopathic inflammations.

Mr. **Bryant** showed

A PART OF THE INTERNAL JUGULAR VEIN, WHICH HAD BEEN WOUNDED BY A FALL UPON BROKEN CHINA,

from a little girl, aged nine years, who was admitted into Guy's Hospital on Nov. 1st, under Mr. Birkett. About one hour previous to admission she was running down stairs, with a chamber utensil in her hands, when she stumbled and fell over the broken china. A scalp wound over the right front was the result, and a wound on the right side of the neck. From this severe bleeding followed. No other means than the application of a piece of plaster were employed, and the child was brought to Guy's. When admitted, the child was pulseless, and in a dying condition. A wound over the right front existed, and a peculiar induration of the bone, evidently produced by a sharp edge, but no fracture. The wound in the neck was upon the right side, about one inch in length, and about one inch to the outer side of the thyroid cartilage; the edges were cleanly cut, no bleeding occurred, and in less than five minutes the child ceased to breathe. On making a post-mortem examination, the source of the hæmorrhage was detected; the sharp edge of the broken china had perforated the skin and deep fascia, dividing some few fibres of the sterno-cleido-mastoid muscle, and entered the internal jugular vein, producing a clean oblique incision in its outer wall, about a quarter of an inch long, giving an observer the impression that the wound had been produced by a stab from a sharp instrument. The mode of production of such an injury as the above forms the principal point of interest in this case.

Dr. **Ogle** and Mr. H. **Gray** gave the following report of the examination of Mr. Hutchinson's

TUMOUR CONNECTED WITH THE HUMERUS.

The specimen consisted essentially of a fibrous growth, which had commenced apparently within the head of the humerus. Much of this part of the bone had been destroyed, and other portions so expanded by the growth that, to a great extent, but a mere shell remained, mapping out only, as it were, in places the original outline of the bone. Where the bone had been destroyed the growth had increased to the greatest degree, and became blended with the superjacent muscular tissue. The major part of the growth was of a whitish colour, and of a firm consistence, gradually assuming a pink hue towards the part invested by muscular fibre. Towards the lower part of the specimen—that is, towards the shaft of the humerus—the substance was softer, and in places quite broken down and pultaceous in character, being also of a yellowish-red colour; and this part of the growth was directly continuous with soft material of the same character, situated within the medullary canal of the upper part of the shaft of the bone. In the substance of the firmest and lightest-coloured part of the growth, one or two cysts existed of about the size of a pea, containing turbid fluid. A microscopical examination of the central white parts of the growth showed fibres of variable strength and thickness, having a few granular particles, and occasional small nuclear corpuscles mixed with them, such as is not uncommon in fibrous growths; but the same tissue, where of a pinkish hue and verging towards the muscle, contained, besides the above-named elements, a quantity of granular and amorphous material, and this was the case as far outwards as the complete periphery of the growth, where the muscular fibres with which the growth was blended appeared to have lost all their distinctive characters, and to be simply reduced to a species of fibrous tissue having similar amorphous material between them. The softer and yellowish parts—namely, those continuous with that within the medullary cavity—showed fibrous tissue similar to that in the light-coloured parts, but broken down and disintegrated, and containing large numbers of oil-globules and granular fatty material, with here and there connective fibre-cells. In this latter portion also, and in the material within the medullary cavity, there were found a few, but only a very few, oval-shaped myeloid-bodies, and these almost entirely without any projections or elongations.

Dr. Gibb exhibited an

OVARIAN TUMOUR WEIGHING TWENTY POUNDS,

taken from the body of a female, aged thirty-three years, who had been married twelve years, and never had any family. She had been the subject of an ovarian growth for about nine years, its origin having been attributed to lifting a heavy weight before her marriage, which was followed by severe pain in the back and lower part of the abdomen, with the appearance of the catamenia in great profusion. When first noticed, it was found to be on the left side of the abdomen, and about the size of the fœtal head; it has gone on slowly increasing, but its growth has been more rapid for the last four years. The menses have been perfectly regular at all times; she has several sisters, two of them married, but none affected with the same disease. The presence of this tumour, as it increased in size, produced great inconvenience, and interference with all the ordinary functions of life, and at last caused death on the 10th of November. An autopsy was performed seventeen hours after death. The abdominal parietes were very thin over the tumour, which occupied the greater part of this cavity, and extended into the pelvis, completely filling it. At its lower part it was strongly adherent by firm bands of cellular tissue, and especially in that situation pressed upon the parts in every direction, so as to prevent the passage of fæculent matter. The tumour measured thirty inches in its lateral circumference, and forty-one in its longitudinal; was soft and fluctuating in some parts, and firm in others. The uterus was the size of one after the birth of a five-months' child, and was turned completely over, the growth springing from its left side, and incorporating the anterior surface of the organ, whilst the right uterine appendages were distinctly observable towards the left of the uterus. Coursing over the right lateral aspect of the tumour was the ureter of the kidney of that side, dilated to a very large tube extending to the kidney itself, the pelvis of which was also much dilated; this kidney appeared to be sacculated, but was reserved for future examination, as well as the interior of the ovarian tumour. The left kidney was healthy, and the ureter not dilated. The liver was much enlarged, and affected with cancerous degeneration, existing in patches and clusters on its surface, as well as through its substance. The supra-renal capsule of the right kidney was enlarged into the form of a solid tumour the size of an egg, apparently of a malignant character, and of a brownish colour. The lungs were highly emphysematous, and covered with carbonaceous deposits. The heart and other viscera were normal. The pericardium contained about two ounces of serum. Some of the deep bronchial glands, as well as the mesenteric, were much enlarged, black in colour, gelatinous on section, and resembled true melanosis.

Dr. Andrew Clark read, on behalf of himself and Mr. Wm. Adams, a report upon the tumour exhibited by Mr. Price. The report confirmed the opinion previously expressed that it was a rare and well-marked example of colloid cancer. The tumour was of a globular form, about three inches in diameter, lobulated, and grafted, as it were, upon the condensed mammary gland tissue. The gland tissue became incorporated with the true substance of the tumour. The greater part of the cut surface of the tumour had an alveolar aspect, and the alveoli were filled with colloid matter. Other parts of the tumour had lost the alveolar aspect, and were white, opaque, and finely granular, like some kinds of encephaloid. Nodules of this latter kind of product were found embedded in the midst of the colloid masses. The microscopic examination went to show that the mass of the tumour was made up of true colloid, which exhibited some remarkable peculiarities in the cell forms and fibrous areola. The opaque parts of the tumour resembled encephaloid cancer, and the two appeared structurally to blend into each other. The gland tissue was much altered, and contained in its vesicles and ducts numerous cell forms, similar to those constituting the opaque portions of the tumour.

Mr. Wm. Adams observed that there had been only three specimens of colloid cancer of the breast exhibited before the Society: the first was by the late Mr. Robinson, of Camberwell, the others by himself. In one of the cases which he brought forward, the diseased part was removed eleven years ago; a second time the patient was operated upon by Mr. Partridge, at King's College Hospital; and there is now every likelihood of the disease recurring. Still, notwithstanding its probable recurrence, there is no doubt that the operation preserved the life of the woman for eleven years.

The President asked if there was any microscopical examination of the parts referred to by Mr. Adams, and whether there existed any samples of encephaloid cancer.

Mr. Wm. Adams.—In the different specimens removed from the woman referred to, there existed specimens of encephaloid and medullary cancer. The specimen removed from the same woman by Mr. Partridge was gelatinous.

Mr. Jonathan Hutchinson exhibited a specimen of

CANCER OF THE OS UTERI,

removed from the same patient whose case he brought before the Society during the last session, and in which he performed excision. The case did well for five months, when she again called on him, and said that her symptoms were the same as those she was formerly troubled with. On examining her he could not detect the presence of any morbid condition; but on the patient persisting in her statement, further examination discovered two prominences the size of two peas. The patient was admitted under his care into the Metropolitan Hospital, when he removed the growths with a pair of scissors. The microscopical appearances on both occasions differed; the first specimen was that of medullary cancer, the second was marked by the presence of mere ciliary epithelial cells.

Dr. Pollock showed a specimen of

DOUBLE ANEURISM OF THE AORTA,

which derived some interest from the fact that the case had been carefully diagnosed during life. The patient was a man aged fifty-four, of robust build, and full, well-shaped chest. He came under Dr. Pollock's care in February, 1856. He had for nine months previously suffered from a severe paroxysmal cough, with expectoration of frothy mucous matter; he had considerable dyspnœa, and tightness across the chest. This symptom was constant, and gradually increased in intensity till his death. He complained of severe pain in the sternum, and through the chest to the right side of the spine. The physical signs were deficient respiration over the whole right lung, with clear percussion note, except at the apex, and over a space extending across the sternum opposite the third right costal articulation, where there existed well-marked dulness. There was slight pulsation in this spot, but no external tumour. This formed a centre of pulsation distinct from that of the heart, and which gradually decreased on approaching that organ. There was no murmur of any kind, either over the seat of dulness, or in any part of the chest, or above the clavicles. The left radial pulse was sensibly less in volume than the right. There was at one time considerable but varying dysphagia. The peculiar alterations in the key of the voice so often present in aneurism, were not heard in this case; he spoke generally in rather a hoarse tone. He removed to the country for some weeks and got worse; and, on his return, was again seen by Dr. Pollock in consultation with Mr. Evan Jones, of Southwark-bridge-road. The dyspnœa and other symptoms had increased to a painful extent, and his sufferings to the last were extreme. His last few days were passed in a chair, and he was constantly fanned. He was aware that some unusual cause existed for his sufferings, and requested that his body should be examined after death. The post mortem, made twenty hours afterwards, revealed a large sacculated aneurism arising from the front of the aorta, near its origin, and occupying the space exactly indicated by the dulness on percussion during life. A second sac opened from the back part of the arch; and it was this posterior sac which pressed on the right bronchial tube, the trachea, the right pulmonary artery, and on the œsophagus. The right lung was much atrophied; the upper lobe condensed, and exhibiting the usual appearances of capillary bronchitis.

Mr. John Birkett described

EIGHT "SEBACEOUS CYSTS," REMOVED FROM ONE INDIVIDUAL.

M. S——, aged forty-eight, a cachectic-looking married woman, came to me from Strood, and she was admitted into Guy's Hospital, Dec. 19th, 1855. For years she had been troubled with "wens" on her head and body, but only one of them had been a source of very great trouble. This was situated on her back. It had ulcerated and had continued to discharge for some months, although she had it surgically treated. Upon two occasions a surgeon had applied a ligature round its base, which reduced it temporarily.

On Dec. 15th, 1855, Mr. Birkett removed eight of the growths; five from the head, three from the trunk, commencing at the vertex of the cranium. He described each.

No. 1 was a thin-walled cyst, lined with epidermic scales which contained yellow sebaceous matter, of soft consistence. This consisted of epidermic scales and fatty matter only.

No. 2, situated above and behind the left auricle, had thin walls, was very soft and contained much yellowish fluid, in which were epidermic scales and fat.

No. 3, smaller than the two described, had very thick, firm, and dense walls, but there was a small cavity in its centre, occupied by greasy materials, which were epidermic scales and fat.

No. 4, the largest, softest, and most pendulous of all, had a very thin-walled cyst. It contained scarcely anything more than fluid of a dark colour, resembling coffee-grounds. Adherent to the lining membrane of the cyst was a soft solid, like the fibrine of blood.

No. 5, situated at the summit of the right side of the back, exhibited the external appearances of a fungating cancer. It was somewhat pedunculated, irregular, fissured and lobed on its surface, and a secretion of a sero-purulent nature ran from its surface continually. Its attachment was simply dermic, but its arterial supply was rather free—that is, in comparison with all the others. Its elementary composition was epidermic scales, fibre-tissue, nucleated bodies, and fatty matter.

No. 7 was developed over the inferior angle of the left scapula; it had a wall of medium thickness, and it was filled with sebaceous matter, of the ordinary consistence and composition.

No. 7, the most solid and hardest of all, situated at the upper part of the left lumbar region, was very firmly attached to the integuments, and its surface was red, as if about to ulcerate. The cyst was leathery and the entire mass cretaceous.

No. 8 was on the scalp, a little in front of the vertex of the head. It was the smallest of all, had very thick walls, of a concentric formation, leathery, almost cartilaginous, and although containing some sebaceous matter, there was a cavity in the centre.

On this individual were found eight new growths, all exhibiting remarkable diversity in their external as well as internal physical characters. Such formations and structures at one time would have led morbid anatomists to describe each new growth as a separate form of disease, especially if a formation resembling each of these had been developed upon as many separate individuals.

It would have added very greatly to the interest of the case if the accurate date of the origin of each growth had been procured. In the attempt to do this, Mr. Birkett was only successful in discovering that No. 5 was the fungating cyst, was the first noticed, and that its period of existence was at least for twenty years. It had been ulcerating or fungating for two or three years. Near the base of its attachment to the skin was a dark-brown warty growth, and a "mole" had doubtless existed here many years.

A portrait of the patient and drawings of the tumours were exhibited.

Dr. Ogle exhibited a specimen of

DISEASE OF THE SUPRA-RENAL CAPSULES.

These bodies were much enlarged and rounded, and almost entirely occupied by scrofulous deposit, of a light yellowish-white colour, and very firm in consistence. Only a very small part of each capsule was free from such deposit, and this was of a bright-red colour. Both supra-renal capsules were removed from a young woman who died of phthisis, with scrofulous inflammation of the bladder, one kidney, and its ureter. There was also great softening and enlargement of the spleen, and a large number of white corpuscles were seen in the blood. Owing to disease of organs whose vital importance and influence was acknowledged, it was impossible to determine what part the affection of the supra-renal capsules played in the production of symptoms. It was of interest to observe that no bronzing of the skin was found.

Dr. Murchison showed

A SPECIMEN OF LIVER IN WHICH THE GALL-BLADDER HAD BEEN DESTROYED BY CANCEROUS ULCERATION, AND THE RESULTING CAVITY COMMUNICATED WITH THE TRANSVERSE COLON.

On the abdomen being opened, the transverse colon was found firmly adherent to the anterior margin of the liver, at a point corresponding to the fundus of the gall-bladder. On the surface, and throughout the substance of the liver, were numerous cancerous deposits. The cystic duct and artery were found imbedded in, and obliterated by, a mass of cancerous deposit, which also compressed, but did not obliterate the common hepatic duct. No trace of the coats of the gall-bladder could be made out, but in its place was a cavity hollowed out in the substance of the liver, with irregular sloughy walls, and which communicated, by an opening as large as a halfpenny, with the interior of the adherent transverse colon. This cavity was filled with a dark-brown pultaceous fluid, containing *débris* of the food. The margin of the opening in the transverse colon was indurated from cancerous deposit, as was also the whole circumference of the corresponding portion of gut, producing a stricture, to the right of which there was great dilatation. The preparation had been obtained from the body of a man aged fifty-six. The symptoms during life had been briefly as follow: Three months before death he first began to suffer from pains in the right hypochondrium. Two months after this he was seized with great aggravation of the pain, vomiting, and purging. Ten days before death, he became jaundiced, and about this time the hepatic dulness was found to extend five inches below the ribs, and an immovable tumour could be felt in the region of the gall-bladder. From the appearance of the jaundice he gradually sank until death.

Dr. Murchison also exhibited a specimen of

CANCER OF THE LIVER AND GALL-BLADDER,

in which the cystic duct had become obliterated by cancerous deposit. The gall-bladder was much distended with a milky, flaky fluid, loaded with epithelial scales, and also contained two large gall-stones. There was no ulceration of its lining membrane, nor adhesion of its outer surface to any of the adjoining viscera. In the same patient the stomach and transverse colon were found glued together by cancerous deposit on their peritoneal surfaces, and there was also a cancerous stricture of the rectum. The preparation had been obtained from the body of a female, aged fifty-three, in whom the symptoms had been—pains in the abdomen, coming on about two months before death, and followed by obstinate constipation, vomiting, jaundice, and rapid sinking.

NORTH LONDON MEDICAL SOCIETY.

Mr. Part, President, in the Chair.

Dr. Hare related the details of a

CASE OF MANIA.

The patient was a lady, whom he had seen in consultation with another practitioner. The disease seemed to have come on suddenly. Amongst other symptoms, she imagined herself to be in a state of electricity, and that the order of things appeared to her to be perverted. She had not enjoyed sleep for some time. Dr. Hare treated the case with morphia. The lady recovered completely.

Dr. Tunaley mentioned a case of mania which had yielded to large doses of belladonna.

Dr. Garrod believed that some cases of mania bore a resemblance to delirium tremens. Belladonna, henbane, and stramonium, he had observed to produce a similar condition. Such cases as these were benefited by opium, which he considered in a measure antagonistic to the drugs mentioned in its therapeutic action.

Mr. J. Zachariah Laurence read a paper on

LUPOID ULCER.

The author first narrated the details of four cases of the disease—a disease of the skin, which, he believed, had not hitherto been described by any author; and then proceeded to direct attention to the following specialities:—

1. *The character of the ulcer.*—The most marked feature is its peculiar mammillated or tuberculated surface. It does not extend to any depth; its secretion is thin; in some cases it is painless, in others attended with occasional shooting pains; it has sometimes a tendency to bleed. It is stamped by an excessive indolence. In the cases adduced the disease showed little tendency to spread; it was characterized, not by any rapid progress, but having once attained a certain degree of severity, by an obstinate resistance against any remedies employed for its melioration.

2. *The situation of the ulcer.*—The nose, upper lip, palate, and cheek were the localities observed.

3. *The subjects of the disease.*—Mr. Laurence had only observed it in young women in whom the menstrual function was at fault. "Lupoid ulcer" is most nearly related to Lupus exedens, but differs from that disease by the ulcer not being preceded by the formation of any tubercles, by the peculiar and characteristic appearance of the ulcer, by the smooth (not barred) consequent cicatrix, by its greater indolence, and by the special circumstances under which it occurs.

Two authors have cursorily noticed this disease. Rayer has, at plate xii. fig. 2 of his Atlas, figured it with the description, "Lupus exedens: ulcers of the alæ and extremity of the nose, covered with fungous mammillæ, situate under the crusts." The peculiarity of the disease evidently struck Rayer, or he would not have otherwise specially figured and specially described it. Dr. Robert Willis states, under the head of Lupus exedens, that "when the disease shows itself in the nose, it is not always possible to say positively that the first step in the development is the formation of any kind of tubercle."

Mr. Norman said he had seen several cases of the disease in question; one on the nates. He considered the peculiar mammillated appearance owing to the disease commencing in the sebaceous follicles.

Dr. Garrod had seen such cases under the care of the late Dr. Anthony Todd Thompson.

Dr. Tunaley mentioned a case of the kind, in which there was vicarious menstruation from the surface of the ulcer.

Dr. Hare believed the disease to be a variety of Lupus exedens.

WESTERN MEDICAL AND SURGICAL SOCIETY.

Mr. S. A. Lane, President, in the Chair.

After a short opening address from the President, and the nomination of new members,

Dr. Seaton read a paper

ON THE PROTECTING AND MODIFYING POWERS OF VACCINATION.

He commenced by correcting erroneous notions which some entertained as to the views held by Dr. Jenner on the protecting power of vaccination, and showed that when he spoke of this as an absolute and perfect protection, he meant that it protected to the same extent and in the same manner that small-pox itself did. He regretted that the rules and cautions laid down by Jenner for the performance of vaccination should so often be departed from, and that the operation, from its simplicity, should not always have received, either from medical men or from parents, the attention due to it. Hence it was necessary, in every case of small-pox in which previous vaccination was alleged, to ascertain accurately whether the person had really gone through the vaccine disease or not. In determining the relative protection against small-pox afforded by previous attack of the disease casually or by inoculation on the one hand, and by vaccination on the other, there was also the necessity, in the former case, of determining whether the primary disease had really been small-pox, or whether the inoculation had been successful, and there was the necessity, in both cases, of being assured with regard to the present attack that it was a genuine one, and not one of the many diseases which had at different times been mistaken for small-pox. Again, the comparison must be made in classes of individuals similarly circumstanced as to age, condition of life, liability to exposure, &c., &c. The seconditions were all fulfilled in the Royal Military Asylum, in which it had been shown, by Dr. Balfour, that out of every 1000 boys admitted protected by previous small-pox, 6·15, and out of every 1000 protected by vaccination, 7·06, were attacked subsequently by small-pox. This result might be looked upon as conclusive as regards children under puberty, and shows that as regards them Dr. Jenner's opinion of the equal protecting value of small-pox and of vaccination was borne out. Dr. Seaton said these statistics were further of great value in showing that small-pox after small-pox was by no means the rare occurrence it was sometimes represented to be, a point which must always be borne well in mind in any attempt to estimate the value of vaccination. There were no statistics by which the relative protection afforded by vaccination and by small-pox could be estimated with the same precision for the adult. The statistics of the army and navy were not available for this purpose, though they afforded most conclusive proof of the general value of vaccination, these forces being at times much exposed, and four-fifths of them owing their protection to vaccination. Dr. Seaton then entered into the question of the protection afforded by vaccination under circumstances of long-continued exposure during epidemic influence. Having mentioned some striking facts on this subject, he gave the results of an inquiry instituted some few years ago by the Epidemiological Society as to the extent to which medical men, whose profession exposed them of course, in a peculiar degree, to small-pox, were liable to take on the disease. It appeared from the returns, that of 347 medical men protected by vaccination, 44, or 12·6 per cent., had had variola; and of 82 who had been inoculated in infancy, 3, or 3·6 per cent. had variola subsequently. Dr. Seaton cautioned the Society against accepting these statements as representing correctly the ratio in which medical men, in the ordinary practice of their profession, were liable to variola. In the first place, the inquiries had been addressed to a great many more who had not replied. Now, as variola after inoculation, or after vaccination, was undoubtedly the exceptionable case, the probability is, that in every case in which it occurred it was reported, and those who did not reply had not suffered. This would materially lessen the per centage. Again, the inquiries were addressed to *selected* persons: the selection being, in many instances, made because of the known extent to which they were in the habit of meeting with small-pox. And further, a great many of the cases of small-pox thus reported were cases of variolous inoculation in the dissecting room. Making allowance for these points, the returns would, at first sight, show that under circumstances of considerable exposure, the protecting power of vaccinia was inferior to that of variola. But an analysis of the returns, with the view of determining *the character* of the vaccination relied on, gave some interesting results. Of 18 who stated there was no cicatrix visible, 3 had had small-pox, or 16·6 per cent.; and of 32 who made no mention about the cicatrix, 6 had had small-pox, being about the same proportion. Of 235, with one or two cicatrices, 33 had had small-pox, or 14 per cent.; but of 62 with three, four, or more cicatrices, 2 only had had small-pox, or 3·2 per cent. Taking these facts in connexion with the immense value of the cicatrices as an index of the efficiency of vaccination, as shown by the researches of Mr. Marson, the results are sufficiently remarkable.

It does not appear that the liability to take small-pox is any greater in those having more than two cicatrices of vaccination than in those who have had previous small-pox, so far as these observations go. Granting at once that the number of observations is far too limited to allow us to draw with confidence any positive conclusion, they certainly justify a negative one, and call upon us to pause before we admit that duly and efficiently performed vaccination will not protect the system, even under circumstances of severe exposure, to the same extent that inoculation itself would have done, as stated by Jenner. It was clear, at all events, that there was no truth in those statements, which treat of small-pox, after inoculation, as a bare possibility scarcely to be taken into account; and of small-pox, after vaccination, as a thing almost to be expected, especially after a lapse of years. In reference to the doctrine involved in this latter phrase—viz., that the protecting influence of vaccination is liable to wear out, Dr. Seaton cited various facts to show that it ought not to be accepted. The author then proceeded to consider the modifying power of vaccination; and exhibited in a table the results of various returns to the Epidemiological Society of the observations made in various epidemics, and of the records kept by Mr. Marson, at the Small-pox Hospital. He showed that the mortality from small-pox, in persons reputed to be vaccinated, was not more than 3 or 4 per cent., under favourable circumstances, nor more than 7 under the more unfavourable, while the mortality of the natural small-pox varied from 20 to 35 per cent. He gave an account of the analysis of the cases of post-vaccine small-pox in the Small-pox Hospital, made by Mr. Marson, and published in his paper in the "Medico-Chirurgical Transactions," which Dr. Seaton characterized as the most important contribution ever made to our knowledge on this branch of the subject. By these it appeared that in persons well vaccinated, and having more than two cicatrices, the mortality was less than 1½ per cent. It was only, the author observed, by taking in connexion the protecting and modifying powers of vaccination that we could arrive at any just estimate of the real value of the discovery; and he showed from the preceding facts, that of a certain number of children vaccinated in infancy, the proportion who would at any period of life take fatal small-pox was infinitely smaller than the number who, out of a given number of children inoculated would die from the immediate effects of the operation itself. Hence the practice of vaccination was infinitely preferable to inoculation as regarded the individual. The great objection, however. to inoculation was, that it kept alive and propagated the disease. This was the case in the present day in India, in Ireland, and other places, where it was still practised, and it had been the case in England. Hence during last century, while inoculation was in vogue, the mortality from small-pox underwent no diminution; while since the introduction of vaccination it had steadily and progressively declined. For the ten years ending 1800, the average annual mortality from small-pox within the Bills of Mortality was 1780 in a population ascertained in 1801 to be 261,233;

while the four years ending 1841, it was only 1659 in a population ascertained in 1841 to be nearly 2,000,000. Then came the Act establishing parochial vaccination, and for the fourteen years ending 1855 the average annual mortality from small-pox was but 821 in a population considerably above 2,250,000. The author then showed that by far the greater part of this mortality was unnecessary and preventible; and comparing and contrasting the mortality from small-pox in this country with that existing in other countries, and glancing at the state of Scotland, Ireland, and our colonies in this respect, he pronounced our present condition to be most discreditable to us as a nation, and especially as *the* nation in which the discovery of vaccination took place, and expressed his hope that when the attention of the Legislature was turned, as it would be immediately, to the subject, the medical profession would make its voice heard in proclaiming the value of the practice, and the futility of the objections that had been raised, and in pointing out and supporting the establishment of a better system for securing its benefits to the entire population.

The Society then adjourned.

HARVEIAN SOCIETY.

THURSDAY, NOVEMBER 20TH, 1856.

DR. RAMSBOTHAM, PRESIDENT, IN THE CHAIR.

DR. MARSHALL HALL read the following paper on

THE ASPHYXIA OF STILL-BORN INFANTS, AND ITS TREATMENT.

The newly-born infant and the newly-born of many of the mammalia are in a peculiar condition, both in an anatomical and physiological point of view.

The foramen ovale and the ductus arteriosus being still open,[*] the blood of the pulmonary circulation is still diverted from the channels it is destined to pursue, and in this respect it resembles the reptile tribes.

Respiration, and every stimulus, *except temperature*, being absent, the excitability of the spinal system and the irritability of the muscular system exist in their highest condition, according to a law of animal life which I announced some years ago—viz., that these faculties are, throughout the animal kingdom, *inversely as the stimuli*.

The new-born fœtus is therefore a creature of high excitability and irritability. But such an animal bears the absence of stimuli precisely in the same ratio. Respiration is the chief of these stimuli; therefore—to arrive at the subject of this paper, the new-born fœtus can long survive the absence of respiration.

The condition of apnœa and of asphyxia, without the absolute loss of life, is therefore of long duration, and the hope of restoring the still-born infant is long protracted; so must therefore our efforts at resuscitation be.

[*Note.*—I must here briefly advert to the well-known question of Harvey,[*] and the not less famous experiment of Buffon, leaving them to your meditation. Harvey asks why the infant which has never breathed bears the suspension of respiration longer than the infant which has once respired?[†] Buffon had the idea that if the fœtus of the class Mammalia was born under water, and respiration prevented, the foramen ovale and ductus arteriosus would be prevented from closing, and that in this manner life might be protracted under water. A chimera! For what respiration would there be if both placental and aërial respiration were excluded? But life does not exist without respiration.]

These efforts consist—

1st, In measures to induce efficient respiration; and,

2ndly, In measures to maintain the circulation.

In order that respiration may be effected, we must adopt the following means:

1st. The infant must be placed in the prone position, in order that all fluids, which might obstruct the entrance into the windpipe, may flow away.

2ndly. Nature's mode of operation being to impress the trifacial and cutaneous nerves, the external *excitors* of respiration, by the external cold, we must dash a few drops of cold water on the face and the general surface.

3rdly. We must proceed, having failed to *excite* respiration, to *imitate* the respiratory movements.

This must not be done by *any forcing* means; even the human breath, forced into the infant's lips, may *tear* the delicate tissue of the fœtal lungs. We must, on the contrary, adopt some measure of *drawing* the air into the lungs. This is effectually accomplished by first placing the little patient briskly in the prone position, to clear the fauces; then pressing gently on the back; and then removing that pressure, and turning it gently on the side and a little beyond.

4thly. Meantime, the limbs are to be rubbed, with gentle pressure, upwards, to promote the circulation, by propelling the venous blood towards the heart.

5thly. At proper intervals, we must again endeavour to *excite* the respiration physiologically.

The infant is to be placed with the face prone, and douched alternately and rapidly with water of the temperatures of 60° and 100° Fahr.

High and low temperatures are equally excitants of the reflex function of respiration, and their power, within physiological limits, is in proportion to the difference of those temperatures.

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[*] This patent condition of the foramen ovale and ductus arteriosus continues, according to the researches of M. Flourens, during eighteen months of extra uterine life in the human species.—"Histoire de la Découverte de la Circulation," p. 67, 69.

[*] Exercitatio Anatomica Secunda de Circulatione Sanguinis, Gulielmi Harveii, p. 256. Glascuæ, 1751.

[†] "Cur fœtus in utero, non respirans aerem, usque ad mensem decimum, ob defectum respirationis non suffocatur? Cur natus in septimo, vel octavo, quam primum aerem inspiraverit, inhibita postmodum respiratione, ob defectum aeris suffocatur?"

We must remember that the newly-born infant is a creature of high irritability and low stimulus, and that the foramen ovale and ductus arteriosus are open—both events greatly calculated to protract life and hope in the case of apnœa; and we must long, very long, *persevere* in our efforts to save the still-born.

The still-born infant has been restored after it has been neglected for hours!

There is a remaining consideration. The effect of apnœa is a condition of the blood surcharged with, and poisoned by, carbonic acid: from this condition of the blood a secondary asphyxia and convulsions are apt to occur in the adult. I do not know whether this be the case with the newly-born infant; I trust our worthy President will enlighten us on this and other points in regard to the subject of this paper.

The *remedy* and preventive of such secondary asphyxia would be, free exposure to the breeze, with the inhalation of very dilute pure ammonia.

The treatment of the still-born infant may finally be thus briefly resumed in the form of Rules:

1st. Place the fœtus on the face;

2ndly. Sprinkle the general surface briskly with *cold* water;

3rdly. Make gentle pressure on the back; remove it, and turn the infant on the side; and again place it prone with pressure;

4thly. Rub the limbs, with gentle pressure, *upwards;*

5thly. Repeat the sprinkling, only now, with cold and hot water (of the temperature of 60° and 100° Fahr.) alternately.

6thly. Continue these measures, or renew them, from time to time, even for hours. The embers of life may not be entirely extinct!

"Lateat scintillula forsan."

A discussion ensued, in which several members took part.

Medical Annotations.

"Ne quid nimis."

Truly writes Byron, "This is an age of oddities let loose." After some five thousand years' employment of the juice of the grape, mankind is now gravely assured it is a poison; that those who partake of it are on the royal road to all sorts of disagreeable things and places; and that the only preservative is a total and immediate suppression of the sale of all fermented liquors. Directly opposed to these thorough-going reformers, are many medical and scientific gentlemen, of high repute, seeking an abatement of the duties on the importation of wholesome wines: a measure which, as there is now no wine to import, Government will probably soon pass, in accordance with their peculiar adaptation of the principle of "slow and sure"—slow to act, and sure to be too late.

There is a second batch of reformers who, ignoring their molars, "eat root" like Apemantus, and argue, tooth and nail, for vegetarianism. It is scandalously reported that they keep their strongest point of argument in reserve, so that, if caught over a savoury steak, they may always be enabled to get out of the difficulty by asserting that all flesh is grass.

In direct opposition to the vegetarians stand M. Geoffroy St. Hilaire and his troop of horse-eaters.

Mons. St. Hilaire is Honorary Inspector of Public Education in Paris, and Professor of Zoology to the Academy. He has lately given to the world his Theory and Practice of Hippophagy, extending over a period of ten years, and filling 260 pages. We too highly esteem the acknowledged learning and general wisdom of the author to attempt any solemn review of this work. Every man has his weaknesses. Shakespeare stole deer, and Mons. St. Hilaire eats horses.

It is told that a certain epicurean Frenchman, after visiting London, complained that he had been disappointed by our beef. An astonished Englishman suggested that it certainly was superior in some respects to the French. "Oh yes," said the grumbler, "it is more convenient—very handy, indeed, the slices being brought on little skewers to the very door of your house!" He had been eating dogs'-meat. Was he the first French hippophagist?

The new doctrine is as yet confined to Paris—at least, the open practice of it; for we all know that, in the lower districts of London, there may be found many a sausage which once helped to pull a cab. But the effects of its general adoption, in a sporting and horse-loving nation like England, would be something tremendous, especially if we took to horse-eating with that amazing energy always displayed on the introduction of any new fashion. Ostlers would be calling their horses, like Mrs. Bond her ducks, to come and be killed; whilst there would be great demand—as butchers—for all those persons ordinarily represented as having the faculty of "talking a horse's hind leg off." The difference would be equally great between a saddle of horse and a horse's saddle, as between a horse-chestnut and a chestnut-horse; whilst specially stringent laws would be required for the protection of mares' nests. And who can tell what further extremes we should run to? The Frenchman who translated a dog in the manger as a *chien à manger*, may, perchance, get up a party of kunophagists. Our dogs, robbed of their food, will go about the streets growling, "What next!" whilst cats, trembling in their mews, respond, "And next!" At the bottom of this movement, we need hardly say, there is some reason. In France there are millions who come short of animal food, and (as Voltaire says) "keep Lent all the year round." We have in England too many families that scarcely know the taste of meat. On the other hand, there are thousands in both countries who burthen their digestive organs with food sufficient for three times as many human beings, and are justly groaning with dyspepsia. The adjustment of this unfair division would be a plan far preferable to the eating of horses or dogs, or, perchance, "rats and mice, and such small deer." We would teach the *gourmand* that the superfluity which injures him might be beneficial to others, and bring strictly home to him the application of the proverb, that "what is one man's meat is another man's poison." This remedy were surely better than that Lazarus should be taught to kill and eat the dog which licks his sores, whilst never a word of warning is given to Dives that he abate a single *entremet* from the table where he fares sumptuously every day.

Our catalogue of oddities includes yet one more. Amongst the latest Parisian novelties is the formation of a society to advocate the burning of the dead, in place of burying them. They state, that the large cemeteries of Paris pollute the surrounding air by the emanations arising from the great number of bodies interred. This being premised, they at once conclude that the only remedy is cremation. All the grounds of argument were gone over when a similar scheme was propounded, some years since, in London. But it is hinted that, in Paris, the proposition has met with imperial favour; and a journal, entitled, *La Crémation*, is now published to specially advocate the process. In its columns M. Bonneau (lately a lively writer in *La Presse*) makes this touching appeal:

"Who would not love to preserve the ashes of his ancestors! The funeral urn would soon be found to replace on our consoles and mantelpieces, the present ornaments of bronze, clocks, and vases"—the fire-place being, of course specially selected from a belief that "e'en in their ashes live their wonted fires." With French ingenuity already devising such adaptations as these, who can predicate what may be the result of a general employment of cremation? We should hear of wives following the example of Artemisia, who drank in wine the ashes of her husband Mausolus, or of lovers apostrophising their mistresses like the Persian poet, "would that they might make bricks of my ashes to build the tombs of thy victims."

All these new reformers specially insist on the antiquity of their respective maggots. Thus our antediluvian ancestors are represented as both vegetarians aud teetotallers. Considering what became of them, this is not a very effective argument. The mass of evidence as to the eating of solipedes is overwhelming. Mæcenas himself—the patron of the young Roman poets—was quite an epicure in asses. And more than a thousand years ago, hippophagy was denounced by (appropriately enough) two bulls issued by Gregory III. and his pontifical successor. The antiquity of cremation is an archæological study of itself. In pagan times of old, as in pagan lands at present, it was much in vogue; but (says Sir Thomas Brown) "Christians abhorred this way of obsequies, and, though they stickled not to give their bodies to be burnt in their lives, detested that mode after death."

Custom has taught us to regard large towns as the special foci of sanitary grievances, and to picture Hygeia as a blooming country maiden. But a late report of the Registrar-General, setting forth the insalubrity of dwelling-houses in agricultural districts, and the consequent mortality amongst their inhabitants, has statistically upset our ideas of rural felicity. The wand of Science is waved over the comfortable homestead—"in lowly dell, fast by a river's side"—and forthwith the romance of the scene vanishes "into thin air." Here a poisonous mixen steams; there an untrapped cesspool taints the air. The ordure of the "stock" lies everywhere around, and cleanliness is only found in the dairies or the stall of the sleek prize bull. The resident farmer, sleeping and living amongst these combined effects of indolence and ignorance, proves to be anything but the bluff, healthy, long-lived Cymon we have been wont to consider him.

Dr. O'Connor, of Carlow, has recently directed attention to another prolific source of destruction to health and life which especially exists in rural districts and in the neighbourhood of small towns. The kilns for burning lime, dotted everywhere over the face of the country, directly cause the death, in every ten years, of between two hundred and three hundred persons. Their warmth attracts to them wayfarers, who, falling asleep, so die, from the poisonous fumes of carbonic acid emitted, of which an admixture of only one-sixth renders the atmosphere unfit to support life. All this would be at once remedied by a law requiring lime-kilns to be surrounded by a fence. The attention of Parliament was directed to the subject fourteen years ago, and it has been repeatedly urged on their notice during the interval. Surely the evil has attained a sufficient maturity to entitle it to notice, even though the sufferers by it be only the homeless and friendless poor.

At the commencement of the second session of the Catholic Medical School of Dublin, Dr. Lyons—who was selected by Government to proceed to the Crimea on account of his faculty for seeing things clearly, and speaking of them truly—revealed some startling facts in the introductory lecture, Dr. Newman and the magnates of the University being present. He spoke boldly concerning the lamentable deficiency in Ireland of proofs of proficiency in the higher branches of education. With plain figures he supported his statements, and hereby the national journals "fluttered like doves." He stated that the University graduates, who number in Scotland one in every 5000 of the inhabitants, do not in Ireland amount to one in every 20,000; or, if the calculation be taken, as in France, on the degree of B.A., the proportion would not amount to one in 30,000. The countries that rank next to Scotland in the number of those possessing University degrees (the only available standards of high-class education) are, Norway, Holland, America, and Saxony. In the countries where education is enforced, the number of those who rise above mediocrity is very small.

The conclusion that Dr. Lyons draws from these facts (in addition to the very evident one, that science and superior education are far from occupying a position creditable to the national intelligence) is, that "only a small surface-current of Irish intellect has heretofore been put in motion, whilst the great mass continues to lie all but still and unmoved beneath." Dr. Lyons's conclusions are hardly as clear as his statistics.

Why does Scotland stand first in the proud attainment of intellectual superiority? and how comes it that Spain and Italy are nowhere in the race? In the whole world there are no people so trained to habitual intellectual "condition" as the Scotch, or amongst whom so many inducements and examples are held out to men to think for themselves; and Pegasus, being a high-spirited nag, refuses, elsewhere, to work in traces, with a bit in her mouth and a clog at her heel.

The Board of Health has recently issued a report on the character of the water supplied by the ten companies that furnish the eighty millions of gallons a day used in London. This report is chiefly comparative, showing the alterations in five years, since the companies were compelled by Government to shift their sources and improve their method of supply. Notwithstanding the strenuous opposition offered to the Bill, and the powerful arguments adduced as to the perfection of the arrangements then existing, the improvements in five years clearly prove how necessary is a stringent control over all sanitary matters; and how little reliance is to be placed in the assertions of interested parties. In these five years the water companies have been constrained to lay out £2,282,824 in effecting alterations—nearly £1 for every inhabitant of London. The amount of organic matter contained in the water supplied is diminished, on an average, more than one-half; and in the case of one company is reduced from 4.12 grains per gallon to 1.09. This diminution is not due alone to changes in the sources of supply, but also to improved works and filter-beds, the latter now occupying an area of forty acres. But, in addition to the water afforded by pipes sufficient to cover an area of 2086 miles, there are scattered over London numerous pumps, drawing water from those shallow wells whose very existence is a marvel in an underground worm-eaten, like that of London, by sewer, gas, and water pipes. It was one of these wells, near Golden-square,—neglected on the broad principle of letting well alone,—that produced such disastrous results in the last outbreak of cholera. Their condition has not escaped the vigilance of the newly-appointed Medical Officers of Health. From the admirable report of Dr. Druitt, concerning those which exist in the in-wards of St. George's, Hanover-square,—that favoured district, where water is so constantly in request by fainting bridesmaids,—we learn that some change was indeed needed. In seven of the wells whereof the water was analyzed the amount of organic matter ranged from 5.7 to 10.7 grs. per gallon. On opening one there was found at the bottom a large quantity of black mud, of very offensive smell. As these wells would have probably remained uncleansed for years but for the scientific acumen of a skilful medical man, this affords another illustration of the necessity for selecting as Medical Officers of Health gentlemen with the highest professional qualifications.

REPORTS OF CASES ILLUSTRATIVE OF IMPORTANT POINTS IN MIDWIFERY.

By J. M. Winn, M.D., L.R.C.P.,

SENIOR PHYSICIAN TO THE METROPOLITAN DISPENSARY, ETC.

It will be readily admitted, by every practical man, that selections of important cases, concisely and judiciously narrated, have thrown more light on the treatment of disease than all the combined labours of the chemist and microscopist. It would be folly to deny the great advantages which medicine has derived from the cultivation of the collateral sciences; nevertheless, there is at the present period a great tendency, on the part of many junior practitioners, to mistake the means for the end, and to devote too large a share of their attention to the study of *sciences* which are merely handmaids to the *philosophy* of Medicine. To such as these, the words of Pope convey a wholesome lesson; "More good will accrue to mankind by attending to the large, open, and perceptible parts, than by studying too much such fine nerves and vessels, the conformation and uses of which will for ever escape our observation." With regard to the province of practical midwifery, these arguments might be advanced with additional force.

Turning as a Substitute for Craniotomy—The following case proves that this method may sometimes be safely and advantageously employed. Mrs. ——, a well-grown and healthy woman, having a narrow but not deformed pelvis, was seized with strong labour on the 23rd of July last. After twelve hours of severe and incessant pains, the head, which presented, lay completely above the brim of the pelvis; the os uteri had become swollen, and had not expanded beyond the circumference of a crown-piece. Under these circumstances, as her strength was beginning to flag, I gradually dilated the os uteri, and having introduced my hand into the uterus, I turned the child and extracted it without much difficulty. The infant, a girl, was slightly asphyxiated at birth, but is now alive and in good health.

Although in this and similar cases, turning may be advantageously had recourse to, it must not be forgotten that when the pelvis is greatly deformed the following reasons are opposed to its adoption: 1. The powerful traction required might separate the neck from the trunk of the child. 2. If the head be too large to pass after the shoulders are born, craniotomy must be performed at a disadvantage, and nothing is gained. 3. The pressure on the funis during the inevitably protracted delivery by turning, in a narrow pelvis, must be equally fatal to the child as craniotomy. It must also be understood that version ought not to be practised in the event of the child being dead, as the operation of craniotomy is, for the most part, attended with less inconvenience to the mother, and does not harass her so much as the operation of turning.

In the above case, there were a few points in the previous history of the woman's two preceding labours which determined the proper course to be pursued. The points I refer to were briefly these: —In her first confinement craniotomy had to be performed, after an ineffectual effort to deliver by the forceps. In her second confinement she was delivered of a living child, after a severe and protracted labour. No one remedy is suitable for every variety of difficult labour dependent on insufficient pelvic room. The success of an accoucheur is owing to the skill and decision with which he wields the various resources that science and art have placed at his disposal. His duty is to adopt the right means at the proper time, without reference to the dogmata of any particular school of midwifery, and irrespective of any theory, however ingenious or plausible.

Obstructed Labour from Engorgement of the Anterior Lip of the Os Uteri.—On the 21st of March last, Mr. Roper requested me to see a patient, with him, who was then in labour with her eighth child. The outlet of the pelvis was capacious, but the brim was smaller than natural. During labour, from the pressure of the head, the anterior lip of the os uteri had become enormously swollen, forming a large tumour, which presented at the os externum in the shape of a round livid mass, nearly the size of a pigeon's egg. Owing to this strangulated condition of the os uteri, the dilatation of the mouth of the womb had been for several hours arrested. Mr. Roper had made several attempts, using as much force as was justifiable, to reduce the tumour. As these efforts had been found ineffectual, I suggested free scarification of the engorged vessels. By this means the lip of the wound was greatly reduced in volume, its removal to a safe position above the brim of the pelvis was easily effected, and the labour terminated safely in half an hour after the completion of the operation.

Enormous Distension of the Bladder from neglect of Catheterism.—About twelve months since, I was summoned in haste by Mr. —— to see a most distressing case. The patient, a middle-aged woman, had been in labour for a week with her second child. I found her in a semi-comatose and exhausted condition, with a putrid child resting on the perinæum. The bladder had not been evacuated for a long period. On introducing the catheter, I drew off very nearly a *gallon* of ammoniacal urine. I do not exaggerate the quantity; it completely filled one chamber utensil and more than half of another. After this she rallied to a slight extent; some brandy was administered, and I delivered her by craniotomy. She ultimately sank. Meddlesome midwifery is, no doubt, bad, but do-nothing midwifery is much worse; and I must confess that the greater part of the fatal cases I have been summoned to attend have been those in which timely interference would, in all probability, have obviated the disastrous results.

Finsbury-square, 1856.

(*To be continued.*)

EPIDEMIC DISEASES GENERATED IN CAMPS.

M. Tholozan has published a valuable article in the *Gazette Médicale de Paris*, wherein he shows that the precautions taken by the French Government to prevent the spread of typhus by the troops returning from the Crimea are extremely opportune. It is well known that these precautions consist in the formation of camps on the shores of the Mediterranean, in Provence, which are to be used as a kind of probationary and sanitary establishments. In the course of his article, the author cites some facts, which show that camp fever has in former times fearfully spread amongst populations, after the return of armies which had suffered from epidemic diseases. These facts are valuable, and may with advantage be placed before our readers, now that our own soldiers will soon have reached their native shores.

In 1566, an epidemic distemper broke out amongst the imperial army encamped near the Danube, in the vicinity of Komorn, and below Presburg, during the war which Maximilian the Second carried on against the Turks. The disease followed the army during its subsequent movements. Some convalescent men, who were sent home, propagated the disease all over Germany, and Vienna, which was on the high road of the returning soldiers, suffered considerably.

In the summer of 1621, a severe distemper appeared amongst the allied troops encamped at Weidhausen, and spread to the Palatinate and Upper Bavaria. It was conveyed from the soldiers to the inhabitants, without distinction of sex, age, or rank.

At the siege of Louvain, in 1655, the army of Louis the Fourteenth being short of provisions, and destroyed by disease, was forced to retire to Nimègue. The epidemic entered the city with the soldiers, made frightful havock amongst them, and did not spare the inhabitants. Even the convents suffered severely.

Willis states, that at the siege of Reading, in 1643, a fever of a low type broke out amongst the troops, followed the Earl of Essex's army to its quarters, and spread amongst the civilians.

Ozanam mentions that the French troops sent into Lorraine after the siege of Philipsburg carried into that province a malignant and contagious fever.

During the sieges of Prague and Egra, defended by Marshal Bellisle, an epidemic disease of a severe type appeared amongst the troops and inhabitants. The Prussian army became also infected, and in retiring into Silesia spread contagion amongst the rest of the troops and the population of the province.

In 1757, a castral fever declared itself at Eisenach, where a large number of troops were congregated. From thence the disease spread all over Germany, which was being traversed by different portions of the troops. The complaint was observed by Strack and Ludwig, and the disease was carried into Lille, in the autumn of 1758, by the soldiers returning from Germany.

The French army in Italy, commanded, in 1799, by Scherer, was visited by a petechial fever of a low type. The sick were sent to hospitals in the interior of France, great apprehension was felt in the southern departments, and Montpellier and Grenoble suffered considerably.

Infectious diseases broke out in the French army during the Spanish campaign of 1808 and 1809. These diseases were conveyed to France by prisoners and the march of troops. England also suffered when the British troops returned home.

Ozanam further states, that the typhus which reigned in 1814 amongst the allied armies which had invaded France, and especially amongst the Swedish troops, was conveyed by the latter to Kiel and its vicinity, where it assumed a malignant character.

Epidemic dysentery reigned at Lyons in 1624 and 1625, the disease having been brought by the troops returning from Italy; and in 1757, the French army, which passed through the electorate of Mayence, spread dysentery amongst the inhabitants along the whole line of march. The town of Mayence suffered more particularly.

DROWNING SUCCESSFULLY TREATED BY THE NEW METHOD OF INFLATION.

By D. Hadden, M.D., Skibbereen, Co. Cork.

To the Editor of The Lancet.

Sir,—The following brief account will be read with the deepest interest. I lose no time, therefore, in forwarding it to you.

I am, Sir, your obedient servant,
August 4th, 1856. Marshall Hall.

Skibbereen, Co. Cork, July 31st, 1856.

My Dear Sir,—I think it right to inform you, that within the last few days I have had an opportunity of trying your new method of inflating the lungs, and I am happy to say the result has been most successful.

The case was that of a boy, about thirteen years of age, who, when bathing, got a cramp in the right leg, and after struggling for a considerable period sank exhausted. He remained under water for nearly twenty minutes, and when brought to land appeared quite dead. I happened to be passing at the time, and immediately put your plan into operation, and after continuing it for more than a quarter of an hour, he began to show some symptoms of returning animation.

His recovery is the most remarkable I have ever witnessed, and must have been impossible if treated according to the methods heretofore in use.

With much respect, I am, dear Sir,
Very truly yours,
Dr. Marshall Hall. David Hadden, M.D.

Reviews and Notices of Books.

The Surgeon's Vade-Mecum; a Manual of Modern Surgery. By Robert Druitt, Licentiate of the Royal College of Physicians, &c. Seventh Edition. Fcap. 8vo., pp. 760. London: Renshaw. 1856.

The estimation in which a book is held by the profession must be looked upon as of a very satisfactory character when a new edition is called for every two or three years, as has been the case with the present work, which has now reached its seventh. If we trace the progress of this excellent manual, we find its first appearance in the year 1839; it was what it professed to be, a Manual of the Science of Surgery. In every fresh edition could be traced the improvements, novel and practical views, and discoveries in pathology bearing upon surgery up to the time of its issue; and this has been carried out perhaps more in the present volume than any of its predecessors. It has been increased by about fifty pages, without enlarging its bulk, and more than a hundred new engravings have been added throughout the body of the work, representing either choice specimens of disease or accident, selected from our hospital museums, or actual sketches of operations, drawn from nature, or the latest and best instruments of our ablest surgical mechanicians.

In the present edition a short practical chapter has been added on Hysteria and Hypochondriasis, which contains three rules worthy the attention of the younger practitioner, and which will save him much trouble, if remembered on suitable occasions. They are—

> "1st. Be sure that you do not treat hysterical sensations as organic disease. If you do, you lead the patient into endless debility and trouble. 2ndly. Never treat an organic disease as if merely hysteric. If so, you may lose your character and the patient's life or limb. Therefore, before you act decidedly either way, consider well your diagnosis. 3rdly. Remember that organic disease may exist, and hysteria too; and that the presence of hysteria is no proof that the whole case is hysteria. Therefore, in any case of local pain, long continued, if the health and flesh fail, suspect that there may be some organic cause, though the bulk of the symptoms be hysteric. To order sea-bathing and horse-exercise for an hysterical girl with pain in her back, and to discover vertebral caries afterwards, is not good."—p. 17.

The chapter on Morbid Growths and Tumours is full and complete, and is one of the most interesting in the book. It is divided into ten sections, which are comprised under the following heads, containing everything to be desired:—1, Tumours generally; 2, The Fatty Tumour; 3, The Fibrous, Painful Subcutaneous, Fibro-cellular, Fibro-plastic, Fibrinous, Fibro-nucleated, and Colloid Tumours; 4, Cartilaginous and Osseous Tumours; 5, Glandular and Vascular Tumours; 6, Cystic Tumours; 7, Epithelioma; 8, Melanosis; 9, Cancer; 10, Elephantiasis Arabum. Nearly all of these are illustrated by drawings of the microscopical appearances, rendered clear and distinct, which must prove of value to the student. The description given of Elephantiasis is concise, but at the same time amply sufficient. Dr. Druitt considers the best account of it that has been given is by Dr. Dalton, an able practitioner of Guiana. The subject of Cancer is clearly given, and separately considered under its various subdivisions. The term Melanosis he considers ought to be banished altogether, as it refers to a mere accident, or complication of tumours, from the presence of black pigment; but further on he uses the term *black cancer*, which he thinks more appropriate when the disease is of the malignant form.

In that part of the work treating of wounds and injuries, much has been added that could be gleaned from the experience of the Crimean campaign.

The chapters on the Diseases and Injuries of the Face and Nose, and on Surgical Diseases and Injuries of the Neck, contain a great deal of information. There are several accidents and injuries dwelt upon that we scarcely remember to have seen, even a passing notice of, in larger and more elementary works. For example, we give the following quotation, treating about a part of the neck of some importance, and affording information on an hitherto unexplored tract.

> "*Fractures of the os hyoides, or of the thyroid cartilage*, are rare accidents, which may be produced by blows or falls on the front of the throat. The symptoms are—pain, displacement of the fragments, ascertained by examination, difficulty of swallowing or of breathing, and perhaps hæmorrhage from the mucous membrane, which may be lacerated—perhaps emphysema. The treatment must depend on the urgency of the case. In a case of perpendicular fracture of the thyroid cartilage, seen by Dr. Gibb, the two lateral portions of the cartilage were separated at the pomum Adami; but the only symptoms were loss of voice, and an 'indescribable sensation' in the throat. In a case of fracture of the hyoid bone, the mouth was kept open by a gag, whilst the fragments, which had been displaced, and had even pierced the mucous membrane of the fauces, were restored to their proper position. Ice may be applied outwardly if hæmorrhage is very profuse, or inflammation violent. The trachea must be opened, if requisite, to provide for breathing, and the stomach-pump used if the patient cannot swallow."—p. 469.

The chapter on club-foot has been extended, and many additional drawings given. Tranfusion of Blood has not been forgotten. Injuries of the Patella, with the latest explanation of the cause why union does not take place; a good drawing is given of Malgaigne's hooks, which we have seen that distinguished surgeon apply, on one occasion, with the most perfect bony union, and not the slightest inconvenience whilst upon the limb. The rare affection of Necrosis of the Patella, given in our hospital "Mirror," has escaped notice, but is worth remembering in another edition. The section on permanent Stricture contains drawings of most of the urethra dilators that have been successfully employed, including those of Mr. T. Wakly and Mr. Barnard Holt.

The affection known by the name of Ozæna, or Rhinorrhœa, often the source of the greatest misery and suffering, the author divides into three varieties—the catarrhal, scrofulous, and syphilitic. Like otorrhœa, it is but a symptom, known by a purulent or sanious discharge from the nostrils. The morbid conditions upon which it depends are dwelt upon, and a simple and efficient plan of treatment is given. The author says of the first form—

> "*Catarrhal Rhinorrhœa.*—The writer has seen very many cases in which patients of delicate constitution, after a tedious common catarrh, have been troubled with most profuse and obstinate purulent discharge from the nasal cavities, often very fetid in the morning; attended with great weight and stuffing in the head, copious flow of tears, frontal headache, relaxed throat, cough, and general signs of debility, but more especially great depression of spirits. Sometimes, under such circumstances, the mucous membrane swells into red, fleshy eminences. In a case in which the writer was consulted this year, a portion of the swelled mucous membrane had been mistaken for polypus, and it had been proposed to extract it. This state of things is often accompanied by catarrhal deafness.—p. 416. The *treatment* is easy, and includes removal to a dry, bracing atmosphere, aperients, bark with mineral acid, and the inhalation every evening of the steam of boiling water, to which twenty or thirty drops of creosote have been added."—p. 430.

Enough has been said to show the improvements in the present edition. Many excellent precepts are inculcated in the chapter on Chloroform, which has been carefully revised; and Cold is not forgotten as an anæsthetic. And the Formulæ—a very essential and important feature of the work—have been also revised and added to. The illustrations, upwards of three hundred in number, add very much to the beauty of the book.

On the Composition of Food and How it is Adulterated, with Practical Directions for its Analysis. By W. Marcet, M.D., F.C.S., &c. London: John Churchill.

The author of this book tells his readers that "it claims no originality beyond the introduction of some chemical methods not hitherto employed in the analysis of food." And these "chemical methods not hitherto employed" are not particularly specified.

Why, then, is the book published? Because "personal experience has convinced the author of the want of a text-book, containing the simplest and, at the same time, the most efficacious methods for detecting the nature of the adulterations to which our food is daily exposed."

How does he make out his case? By seeking to depreciate the authenticity of that work which contains at once the foundation of all our accurate knowledge on the subject, and which has supplied himself with by far the most valuable portion of the information he retails to the public. Dr. Marcet thus endeavours to gain a footing on ground made popular by ourselves and Dr. Hassall, by tripping up the latter: "Still, I may, perhaps, be allowed to add, after having purused Dr. Hassall's book with attention, that some of his descriptions appear to me rather exaggerated. It is of the utmost importance that the author of a work such as his should not only be perfectly impartial, but most carefully avoid overstating his case; he must remember that in no country in the word has trade acquired such an extension as in Great Britain, and that many honest tradespeople might be seriously injured by an overcharged statement."

There is something exceedingly disingenuous in these remarks. Dr. Marcet does not specify the "apparent" exaggerated statements. He is unable, by any definite fact, to justify his general imputation of inaccuracy. Yet he endeavours to invalidate not only the justice of the allegations made againts vendors and adulterators, but also to throw doubt upon the trustworthiness of the scientific processes employed by Dr. Hassall. We take the liberty of assuring Dr. Marcet that he will commend neither his work nor himself by such a proceeding. Before his insinuation that Dr. Hassall's book is not fitted for "a guide to the medical practitioner" can make way, medical practitioners, who are excellent judges of what they want in this matter, will call upon him to point out *why* it is not fitted for the purpose. Nor will they necessarily adopt Dr. Marcet's volume, even if it should be proved that Dr. Hassall's is defective. He must show, further, that his own succeeds in supplying the want. We will put it to this test.

Does it supply the want of a practical textbook for the detection of adulteration?

There is a class of medical practitioners lately called into action as sanitary officers. One of the especial duties of these gentlemen is to apply the resources of science to the detection of these adulterations. They are especially able to appreciate the merits of a guide in such researches. We have placed Dr. Marcet's compilation in the hands of one of the most able and intelligent of this body, asking him for his candid opinion as to how far it would answer the purpose of himself and his colleagues. His decided opinion is, that as a "practical guide" in the investigation of the qualities of food, the work utterly fails; that it would be of no use to him whatever, and he evinces no kind of gratitude for our present. Nor will any competent critic be surprised at this after a perusal of the book. At page 15 there are some woodcut representations professing to exhibit the microscopical characters of the different starches with which flour may be adulterated. They are absolutely unintelligible and unrecognisable—imperfect as drawings, and false as representations of what they are intended to represent.

With regard to the important subject of Meat—concerning the modes of distinguishing the unwholesome kinds of which some practical information would have been very acceptable—we find little more than the rather superfluous intimation that "in warm weather, meat is very apt to undergo decomposition."

One statement he makes upon this subject is calculated to be exceedingly mischievous, and exhibits the want of practical knowledge of the author:

> "It is," he says, "singular, and important to observe that though putrid meat be decidedly unhealthy, still meat from diseased animals appears quite innocuous, which is shown to be the case from experiments made at Alfort by Hussard, Renault, and others; but as diseased meat is very apt to undergo putrid decomposition, immediately or very rapidly after death, it may at all events be considered objectionable."

Thus a few negative experiments at Alfort are to overthrow the results of the experiments of numerous observant practitioners.

In his description of Milk, Dr. Marcet is also very incomplete. He makes no mention of perhaps the most serious and objectionable kind of milk,—viz., that obtained from diseased or unhealthy cows kept in close stables in towns. This milk, besides its poverty in nutritive elements, often contains pus and other products of disease. For the detection of this, the microscope is essential; but Dr. Marcet's instructions are confined to chemical methods, and these not sufficient for their purpose.

A good practical mode of examining the microscopical and chemical characters of Waters would be naturally expected in a book of this kind; but nothing of the sort is to be found. The subject of Adulterations of Medicines is not touched upon; and numerous other serious omissions might be noticed.

In a word, the book altogether fails to keep the promise found in its title-page and introduction.

The Treatment of Aneurism of the Arteria Innominata by Ligature of the Right Common Carotid Artery. By WILLIAM WRIGHT, M.D., Physician to the Montreal General Hospital, &c., &c. Reprinted from the *Medical Chronicle* for March, 1856. Pp. 39. Montreal.

ON the 1st of October, 1845, Dr. Wright tied the right common carotid artery in a case of aneurism of the innominata, involving the roots of the common carotid and subclavian arteries of the right side. The patient was seventy years of age, by trade a hatter, and a stout, strong-built man. He survived the operation nearly three months, dying hemiplegic on the 27th of December. After death four abscesses were found in the right hemisphere. The effect of the application of the ligature was the solidification and reduction of the arterial tumour. Now, this operation having been affirmed by a high authority to "contain within itself the elements of failure," Dr. Wright set himself to work to carefully analyze the various accounts given of its performance and the recorded results. The paper of Dr. Wright is a valuable one, and forms the best history we are acquainted with of this particular application of the "Brasdorean operation." It is a paper well meriting a wide-spread and careful perusal both by medical and surgical authorities. The result of Dr. Wright's analysis may be said to imply—

That there exists abundant justification to warrant a surgeon in again treating innominatal aneurism by ligation of the right common carotid artery. The ligature will cause solidification and reduction of the aneurism, and it is not more dangerous than ligation of the same vessel performed for any other cause. • Life therefore may be prolonged, if not saved, when there is no other expedient to which recourse can be had. The author lays down the following propositions as to the cases requiring or negativing ligation of the carotid :—

> "1. Cases most suitable are—those of uncomplicated innominatal aneurism.
>
> "2. Cases imperatively requiring—innominatal aneurism with imminent danger from external rupture of sac, pressure on trachea, &c.
>
> "3. Cases most favourable—where the aneurism proceeds from the left segment or anterior circumference of the artery.
>
> "4. Cases less advantageous—those in which the external tumour is nearest the middle of the clavicle.
>
> "5. Cases contra-indicating—complications with aortic aneurism, aortic disease, &c., unless excepted by extreme urgency."—p. 39.

On the Fractures of Bones oocurring in Gun-shot Injuries. By Dr. Louis Stromeyer.
On Resection in Gun-shot Injuries: from Experience in the Schleswig-Holstein Campaigns. By Dr. Frederick Esmarch.
Cases of Resection in Civil Practice on Tonic Treatment throughout. By S. F. Statham, M.B., &c. pp. 120, with a plate. London: J. W. Tatton.

Mr. Statham has here translated those portions of Stromeyer's "Handbook of Surgery," and of Esmarch's "Observations," relative to the value of resection of joints, even under circumstances where amputation in general proves unsatisfactory. The translator was in service at the end of the last Schleswig-Holstein campaign; and in the work before us appear those cases of "Resection," which he has since then performed. Mr. Statham disagrees with his German friends as to the propriety of the antiphlogistic treatment they recommend on the occurrence of diffuse inflammation. On the contrary, he affirms that no diffuse inflammation will spread towards the heart if the patient is put on the best tonic treatment, though it may extend somewhat distally. Mr. Statham also does not recommend Stromeyer's operation for resection of the shoulder-joint, as the transverse incision is very apt to gape, even to the extent of three inches, so that sutures are of no avail. The "getting-up" of Mr. Statham's work is bad, and the language here and there difficult on the first perusal to understand.

Diary of the Crimean War. By Frederick Robinson, M.D., Assistant-Surgeon Scots Fusilier Guards. 8vo. pp. 443. London: Bentley.

Dr. Robinson was with his regiment, on service in the East, from the 18th of March, 1854, when it reached Malta, until after the fall of Sebastopol. He gives, in his Diary, a most interesting account of much that he did and saw, not only during the eventful campaign in the Crimea, but at Constantinople, Varna, and other places. The work is most interesting, as portraying, with all the freshness of writing on the spot, the impressions made upon the author's mind by the scenes and events around and about him. The details respecting the health and sickness of our army, during the dreadful trials to which it was exposed, are given with much graphic power. We commend Dr. Robinson's Diary to the attention of his professional brethren, and quote his concluding observations.

> "The contrast, in every point of view, between the condition of the troops at the termination of the year 1855, contrasted with that of the preceding, cannot fail to be forcibly brought to the minds of all who witnessed the sad sufferings of the first period. A perfect organization and working of the numerous important departments incidental to an army in an enemy's country, I apprehend, can scarcely be looked for under any circumstances, for unforeseen contingencies must arise to interfere with preconcerted arrangements, however carefully planned. On this subject, others are more conversant and competent to judge. Neither am I in a position to speak decisively as to the health of the army at present. Taking my own corps and the other two regiments of Guards as examples, I conceive the ratio of sickness at this time to be less (from disease generally) than would probably have been the case had the men been quartered in London, or any other town at home. The cases have been few in my battalion, in which grave diseases appeared to be attributable either to the climate or mode of life, apart from other exciting or predisposing causes. From one class of disease, notoriously the most fatal in troops on home service,—particularly in the Household Brigade,—experience has shown, I think, indisputably, that very few cases have originated in the Crimea. I allude to consumption. Why this should be so in a climate in which the variableness of temperature is most sudden and striking is a difficult problem to solve, and I need not here enter into its discussion. Apart from local causes—some necessarily dependent on, and arising from, a soldier's life in camp—I venture to record my belief that, were the ordinary habits and precautions of civilised life adopted, few, if any, parts of Europe would be found more conducive to health than the portion of the Crimea now occupied by the Allies. That the diseases which decimated the army during the siege were attributable to the trials it has been my sad task to chronicle in the foregoing pages, and only contingently, on vicissitudes of climate, remediable by ordinary means,—the experience of the present winter has already strongly tended to prove.
>
> "Before concluding, I may express a hope that the services of the Medical Staff Corps, newly organized, may be found the means of preserving many valuable lives on the field of battle. Hitherto the number of men, and means of transporting wounded, placed at the disposal of medical officers, have been totally inadequate. At the Alma, all the stretchers and bearers (drummers)

of my regiment were employed during the first few moments of the action, and before the river was crossed. At Inkermann, I have proved how necessary it is that ambulances should be of the lightest construction consistent with their use, and drawn by strong animals. I think the *Cacolets* of the French preferable, as a more convenient and quicker mode of conveying the wounded a short distance."

News Items, Medical Facts, &c.

St. Mark's Ophthalmic Hospital, Dublin, (For Diseases of the Eye and Ear.)

We learn, from the Ninth Annual Report of this excellent charity, that 114 patients were admitted as inmates, and 2427 persons received medicine and advice at the dispensary, during the year: this is exclusive of 367 renewals from month to month; and 180 operations were performed. Of these patients, 1933 were affected with diseases of the eye, and 494 with those of the ear. Since the publication of the last report, the hosptal has been endowed with a parliamentary grant, which helps greatly to extend the benefits of the charity. It is acknowledged as one of the necessary medical institutions of the country, both as a portion of the Irish school of medicine, and an institution for the treatment of a class of diseases which have of late years become of more than ordinary frequency in that portion of the United Kingdom.

Solubility of Bones in Water.—When, according to Wöhler, pulverized bones, as prepared for agricultural purposes in a bone-mill, are left for some time in contact with water, after filtration the latter contains in solution an easily appreciable quantity of phosphate of lime and phosphate of magnesia. The same result is obtained when water was used which had been previously freed from carbonic acid by long boiling. In water which was filtered through one and the same quantity of bone powder for several months, earthy phosphates could be continuously detected; indeed, their quantity appears to increase when the organic material of the bones undergoes putrefaction by long contact with air and water, and the escaping water becomes turbid, and acquires a bad odour.

London Milk.—Dr. Hillier, the Medical Officer of Health for the parish of St. Pancras, includes the following interesting remarks in a recent report: "I have recently examined more than twenty different specimens of milk, and find that they vary much in character. Thinking it possible that the poorness of the milk might be entirely due to the manner in which the cows were kept, I obtained milk direct from the cows at one of the most unhealthy sheds that I could find; and, to my surprise, the milk, though not so good as country milk, was very far above the average of that sent out. There can be no doubt that the practice of adding water in large quantities is a very common one; the quantity employed is, I believe, from 25 to 50 per cent. The milk supplied to the workhouse was one of the poorest: instead of a gallon containing nearly 9000 grains of solid matter, it contained only 5425, or about two-thirds of the proper quantity. As far as my researches have extended, it is not common to have any other ingredient added than water; this, however, is a fraud which ought not to be allowed.......It is to be feared that, in some cases, water is added by the dairymen, not only to dilute the milk, but also to hasten the separation of cream, so that they may be able to obtain some from the milk before it is sent out to be sold. Thus this most important article of diet is impoverished, not only by keeping the cows in an unhealthy state, but by the addition of water and removal of the cream."

Diseases of American Negroes.—The medical men of the Union are very frequently puzzled to make a satisfactory diagnosis of negro disorders; and one of them, Dr. Cartwright of the University of Louisiana, has assigned them some disorders which seem beyond the reach of pharmacy. One of these is a supposed form of mental disease, termed by him "Drapetomania, which, like a malady that cats are liable to, manifests itself by an irrestrainable propensity to *run away*." Its symptoms, with the empirical treatment on the plantations, are thus described:—"Before negroes run away, unless they are frightened or panic-struck, they become sulky and dissatisfied. The cause of this sulkiness and dissatisfaction should be inquired into and removed, or they are apt to run away or fall into negro consumption." When sulky or dissatisfied without cause, the experience of those having most practice with *drapetomania* has, the doctor holds, been in favour of "whipping them *out of it*." It is vulgarly called "whipping the devil out of them," as he subsequently informs us. The negro consumption and the frambœsia, or "yaws," are described at length by the same authority. But his medical discernment achieves its most exemplary triumph in its detection of another disease from most varied and irregular symptoms. This disease, which is quite as remarkable as drapetomania, is termed—"Dysæsthesia æthiopica, or hebetude of mind and obtuse sensibility of body......From the careless movements of individuals affected with this complaint, they are apt to do much mischief, which appears as if intentional, but is mostly owing to the stupidness of mind and insensibility of the nerves induced by the disease. Thus they break, waste, and destroy everything they handle; abuse horses and cattle; tear, burn, and rend ther own clothing, and, paying no attention to the rights of property, steal others to replace what they have destroyed. They wander about at night, and keep in a half nodding state by day. They slight their work, cut up corn, cane, cotton, and tobacco, when hoeing it, as if for pure mischief. They raise disturbances with their overseers, amongst their fellow-servants, without cause or motive, and seem to be insensible to pain when subjected to punishment......When left to himself, the negro indulges in his natural disposition to idleness and sloth, and does not take exercise enough to expand his lungs and vitalize his blood, but dozes out a miserable existence in the midst of filth and uncleanliness, being too indolent and having too little energy of mind to provide for himself proper food and comfortable clothing and lodging. The consequence is that the blood becomes so highly carbonized and deprived of oxygen, that it not only becomes unfit to stimulate the brain to energy, but unfit to stimulate the nerves of sensation distributed to the body....... This is the disease called dysæsthesia (a Greek term expressing the dull or obtuse sensation that always attends the complaint). When roused from sloth by the stimulus of hunger, he takes anything he can lay his hands on, and tramples on the rights as well as on the property of others with perfect indifference. When driven to labour by the compulsive power of the white man, he performs the task assigned to him in a headlong, careless manner, treading down with his feet, or cutting with his hoe, the plants he is put to cultivate—breaking the tools he works with, and spoiling everything he touches that can be injured by careless handling. Hence the overseers call it *rascality*, supposing that the mischief is intentionally done......The term 'rascality,' given to this disease by overseers, is founded on an erroneous hypythesis, and leads to an incorrect empirical treatment, which seldom or never cures it."

DEATH FROM STRYCHNINE AT JERSEY.—A few weeks since a coroner's inquest was concluded, respecting the circumstances attending the death of an unfortunate young woman named Dyer, late an in-patient in the General Hospital, and who died from the effects of strychnine, administered in ignorance by a female helper named Tyrrel. The case, in consequence of the late disclosures respecting the action of that deadly compound, deserves special attention. It appears that for some months past in the surgery of the hospital stood a bottle containing a number of pills, which Tyrrel, without being prudent enough to ask their nature, took away clandestinely, and four were administered to the deceased, who complained of indisposition. It is presumed that Tyrrel thought they were antibilious pills. Shortly afterwards, however, the deceased was seized with a burning sensation in the throat, and severe cramps in her limbs, her condition at that time being thus described by the nurse, Sarah Robertson, who was called to see her:—"She complained of great burning in the throat, and cramps in the legs, and she was screaming violently. She (witness) endeavoured to soothe her, but she kept calling out, 'Oh! no, no, I shall die!' She said she had taken four pills given to her by Esther Tyrrel, and at the time she thought they were bilious pills. She was suffering extremely, and her limbs were as rigid as iron. She kept screaming out, 'I'll choke! I'll choke!' and immediately afterwards expired." Robert Maddocks, the man-nurse, who is specially in charge of the patients, said that he was called to the deceased at half-past ten o'clock on the night in question. She had a short time previously taken the pills and at the time she was very ill. In his opinion she was suffering from poison—strychnine—as he had been reading Dove's trial, and the symptoms there detailed were similar to those the deceased was suffering from. The doctor was sent for, who ordered a mixture of camphor and opium, if the spasms returned. They did return at about half-past twelve, and the dose was then administered. She got somewhat composed after that, and he retired to rest, but he was shortly afterwards called up and informed that the young woman was dead. The inquiry had been adjourned for an analysis of the stomach and its contents. Dr Jones now handed the following as the results of the examination made by himself and Dr. Vaudin:—"The examination took place fifteen hours after death, and terminated in five hours. The appearances of the body externally, and of the different internal organs, led to the strong presumption that the spasms experienced by the deceased were tetanic. A long and careful analysis of the contents of the stomach itself, by various tests, confirmed this opinion and left no doubts in our minds that strychnine had been taken, traces of that poison having been discovered; and a similar analysis of some of the pills, stated to be the same kind as were given, and kept in the same glass bottle from which those taken by the deceased were abstracted, as well as experiments with them on live rabbits, toads, and frogs, give strength and conviction, even had no doubt existed in our minds before the strychnine was taken, that it produced tetanic spasms, and ultimately death.—(Signed) G. M. JONES, C. VAUDIN." Dr. Jones, in his evidence further stated, that from his examination of the pills, he concluded that each contained about one eighth of a grain of strychnine. The deceased was supposed to have taken half a grain, which was in his opinion sufficient to cause death in a person of her plethoric habit and nervous temperament. The external signs of death were the arched back, the *rigor mortis* disappearing so shortly after death, together with the puffiness of the face, the swelling of the abdomen, the discoloration of the whole body and its rapid decomposition, and the clenched fingers, with the exception of the index-finger of both hands, which were extended and pointing outwards. It could not be proved how the strychnine pills were left exposed in the surgery, but it was conjectured that the bottle was removed there on the death of the man-nurse some twelve months ago, the destructive nature of the contents being unknown. The jury returned a verdict exculpating the young woman Tyrrel. The deceased was twenty-two years of age.

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A Course of Lectures ON THE THEORY AND PRACTICE OF OBSTETRICS.

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PHYSICIAN-ACCOUCHEUR TO ST. MARY'S HOSPITAL, AND LECTURER ON MIDWIFERY AND THE DISEASES OF WOMEN IN ST. MARY'S HOSPITAL MEDICAL SCHOOL.

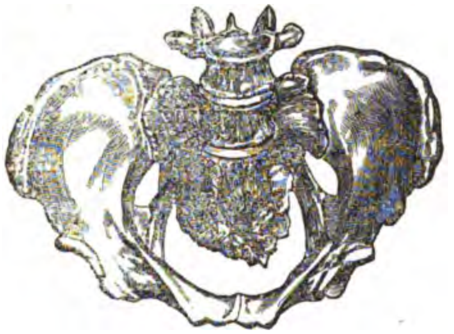
LECTURE XXXII.

DEFORMITIES OF THE PELVIS.—(*Continued.*)

GENTLEMEN,—We were engaged in the last Lecture with the study of the three most important abnormalities of the pelvis, whether considered from a mechanical or a pathological point of view. In passing on to the more subordinate deviations from the "standard pelvis," it must be borne in mind, that though they may be possessed of less theoretical interest, they are equally important in relation to the practice of the obstetric art; that the same questions will be raised as to operative procedures as in the case of the deformities already described, and that they will have to be decided upon the same principles.

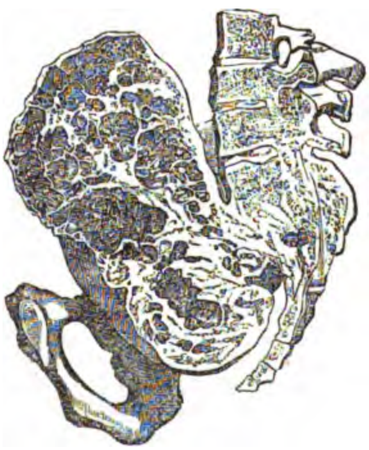
Exostoses and Osteo-Sarcomatous tumours, arising generally from the internal surface of the pelvis, occasionally present an insuperable obstacle to delivery *per vias naturales*. The frequency of these growths, according to some, would appear to have been very much overrated. Many cases have been put upon record as exostoses, which have not been proved to be so by a sectio cadaveris; and the histories of others have contained particulars which mark them out as being in reality something very different to what they were conceived to be by their authors. Amongst the cases of doubtful authenticity may be mentioned one which was reported as an exostosis of the upper part of the sacrum: and, in order to effect delivery, a red-hot iron was passed up to the quasi tumour, through an earthen tube introduced into the vagina. Delivery was effected in this case, but the diagnosis was probably as incorrect as the treatment was barbarous. Projection forwards of the promontory of the sacrum has usually been the condition, without doubt, mistaken for osseous tumour of the bone. In order to establish the diagnosis of an exostosis, or other growth from the internal surface of the pelvis, it is necessary not merely to explore the cavity of the pelvis, but to compare the results of such exploration with external admeasurements, and at the same time to inquire into the previous history and collateral circumstances of the patient. The consistence of bony growths in this situation is not so markedly different from that of the bone itself, as to furnish discriminatory evidence of any value. With regard to the nature of these growths, it may be stated that they are for the most part cancellated internally, communicating with the cancellated structure of the bone from whence they spring; and externally they have a laminar wall more or less dense. Some exostoses of a denser nature, more like the ivory exostoses found on the cranial bones, have been mentioned as occurring especially in connexion with the anterior walls of the pelvis. Spiculæ of bone, too, would appear to be occasionally developed in some of those modifications of the fasciæ which constitute the ligaments of the various pelvic viscera. A connexion would appear to exist between osseous growths about the pelvis and the gouty or rheumatic diathesis. In some cases a blow has apparently been the origin of the tumour. The sacro-sciatic ligaments are sometimes partially ossified, and fibro-sarcomatous tumours at other times spring from them; the first of these abnormalities produces a pelvis like that of the Ai, or the Mylodon Robustus. The sacro-sciatic joints are the seats of some osseous projections, and, in fact, almost any joint of the inner aspect of the pelvis may be occupied by tumours of various kinds; but the upper half of the sacrum is the *locus in quo* of the great majority. The influence exerted upon labour by these tumours is of course proportionate to the diminution they produce of the various diameters of the inlet, cavity, and outlet of the pelvis. Being in most cases incompressible, any operative procedures instituted for delivery will be the same as in the case of diminution of the bony passages arising from distortion. In some few instances tumours may be, and indeed have been, removed from the pelvis in the course of labour, and with perfect success; but these have been fibroid growths situated near the outlet. In calculating the probable effect of a tumour within the pelvis upon labour, regard must be had not merely to the degree in which it encroaches upon the cavity, but upon the impediment it may offer to the rotation of the fœtal head. Occasionally it happens, in some cases of genuine exostosis, that the bony structure is so loose as to admit of being broken down during labour, either by the fœtal head or the manipulations of the accoucheur.

FIG. 140.



Bony growth from the Sacrum.

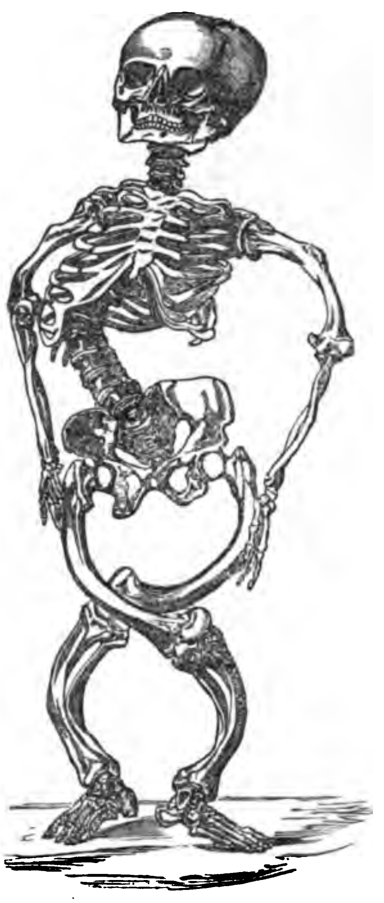
FIG. 141.



Sacral exostosis filling the Pelvis.

The Pelvis Æquibiliter Justo Minor is the next deviation from the normal standard which we have to investigate. As its name implies, this is a symmetrical pelvis smaller than natural. Three distinct varieties are met with: first, where the subject is ricketty and affected with distortion of the spinal column or limbs, the pelvis being unaffected, except as regards diminution of size; secondly, the true dwarf has generally a pelvis small even in proportion to the rest of the skeleton; and, thirdly, there are numerous cases of ever-varying degrees of symmetrical contraction, which are wholly disconnected with any deformity or constitutional vice whatever. The last category of cases must be looked upon simply as parallel to those freaks of development which produce small heads, small hands, or small feet; probably such deviations are all hereditary. When this departure from the normal standard coexists with rachitic distortion in other parts of the body, the diminution in the diameter of the pelvis is generally about one-fourth; thus the conjugate diameter of the brim would measure three instead of four inches, and other diameters would be reduced in the same ratio. Various opinions have been pronounced as to the frequency of equable contraction of the pelvis. Dr. Fleetwood Churchill believes equable enlargement to be more common. However this may be, it is pretty certain that diminished size of the pelvis is much oftener met with than systematic writers would have us believe. Dr. Robert Lee says, "About one-sixth of all the cases of difficult parturition which I have observed in London, depended upon narrowness of the pelvis, from arrest of development and distortion." If we eliminate from this estimate the comparatively rare cases of actual distortion, how large a number will remain to be accounted for as mere arrests of development? The experience of every practical obstetrician who is not determined to find a special distortion in every case of impactment of the fœtal head, must point to this conclusion,—namely, that of those cases which require the use of the forceps for the remedy of impaction within the cavity of the pelvis, a large majority are simply instances of pelves rather smaller than natural. Many serious considerations attach to the subject of "equably contracted pelves;" the chances are very much in favour of its not being recognised until labour has come on, or, indeed, has made considerable progress; and even when recognised, it is extremely difficult to determine the degree of diminution, or predicate the nature of the assistance likely to be necessary. When there is an obvious distortion, these difficulties are eliminated from the question, and the special deviation stands out in bold relief, as something not to be overlooked. The nature of the impediment to delivery offered by the reduction of the size of the pelvis, is of a double character: there is an obstacle to descent, and an obstacle to rotation. Bearing in mind what has been said upon former occasions as to the resemblance of the internal surface of the pelvis to a female screw, it will readily be understood that a comparatively slight contraction is sufficient to derange the intra-pelvic rotations of the fœtal head; and a slight impediment to rotation is tantamount to a vastly greater impediment to direct descent, upon obvious mechanical principles.

FIG. 142.



Skeleton of a rachitic Dwarf with equably-contracted pelvis.

Allied to the Pelvis Æquabiliter Justo Minor, are certain other forms of diminution, such as the "Infantile Pelvis" and the "Masculine Pelvis." These abnormalities differ from the one just considered in possessing a special character. The infantile form of pelvis, besides being decreased as regards size, is more oblique in position; the antero-posterior diameter of the outlet is as great, if not greater, than the transverse; the arch of the pubes is narrower, the tuberosities of the ischia are approximated, and the whole pelvis is shallow. Such pelves as these are not always completely ossified; thus the several pieces of which the innominate bone is composed may still remain discrete, and the segments of the sacrum may not have coalesced. It occasionally happens that this type of abnormality co-exists with size equal to the adult pelvis. Dr. Murphy has described a pelvis of the infantile type, which was absolutely larger than the normal adult pelvis; the antero-posterior diameter in this case was five inches and a half, and the whole pelvis was perfectly ossified. The "masculine pelvis" is, as its name implies, one which approximates very much in dimensions and character to the pelvis of the male. Such conformations are met with in the persons of robust labouring women, in whom there is a general resemblance to the opposite sex, not only in this one particular, but in nearly all those marks which pertain to sex. It is not uncommon to see women of the lower orders, whose bones are very large, voice harsh and loud, and face coarse and hairy. The pelvis which affects the masculine type of development is rounder and smaller at the brim; the cavity is deeper, and is convergent inferiorly or funnel-shaped; the spines of the ischia project into the cavity of the pelvis; the tuberosities of the same bones are approximated: and all the eminences, processes, and ridges, are more pronounced than in the standard female pelvis. An hypothesis has been put forward to the effect that this variety of formation is a hyper-ossified infantile pelvis. I am, however, rather inclined to accept it simply as one of those occasional instances of convergence of the sexes with which every observing person must be familiar. Parturition will be affected much in the same way as in the infantile pelvis; if there is anchylosis of the coccyx with the sacrum or any other pelvic joints, as is sometimes the case, additional difficulty will be encountered.

The Pelvis Æquabiliter Justo Major is one in which the measurements are absolutely increased, their relative proportions being observed. Recorded instances are not very numerous, and this is obviously because women affected with this deviation are not generally the subjects of protracted or dangerous labours. It must not, however, be assumed that a very roomy pelvis is necessarily associated with very rapid or easy delivery, for it would appear that the effect upon the mechanism of labour of a too large pelvis is to a certain extent accidental. It may happen that, from a want of approximation between certain correlated diameters of the pelvis and fœtal head, those rotatory movements which conduce to natural delivery do not take place; and this applies to cases in which the pelvis is too large, as well as to cases in which it is too small. The idea of the screw may be made subservient here to a correct appreciation of what would appear, at first sight, paradoxical, if it is remembered, that unless those points of the fœtal head and the pelvis of the mother which represent respectively the flange and worm of a male and female screw, are brought into apposition, the movement of the head through the pelvis will be one of advance simply, without any rotation; and this movement of advance may very well take place in such a manner as to bring the longest diameter of the fœtal head into relation with the shortest diameter of the outlet of the pelvis. The mechanism, then, of labour, where the pelvis is wider than natural, must be looked upon as something indeterminate and fortuitous. Should the fœtal head have the proper rotations accidentally impressed upon it, or should it gravitate into the proper position, labour will be easy and rapid, but it may in some cases be otherwise. It is very probable that those cases of unconscious or sudden delivery which are quoted in works on medical jurisprudence were to a certain extent connected with abnormal width of the pelvis. Narcotism arising from drugs or disease may abrogate consciousness during labour; but where neither of these circumstances obtains, diminished resistance on the part of the soft or bony passages must be looked to in explanation of the phenomena in question. The works of Dr. Taylor and Dr. Beck abound in cases of sudden and almost painless delivery, which can hardly be accounted for, except upon the supposition of there having been an enormously wide pelvis. Amongst the other effects of increased capacity of the pelvis upon the process of labour is, descent of the uterus while the fœtal head is still within the os uteri. Instances of this have been recorded, in which the fœtus has passed the external genital opening as far as the shoulders, the head being still closely invested by the uterus. Such a condition as this is obviously favourable to the occurrence of inversion of the uterus; and this latter may, in fact, be enumerated as one of the untoward circumstances to be apprehended in connexion with enlarged pelvis. Prolapse of the various viscera within the pelvis, and retroversion of the uterus, are conditions favoured, or likely to be induced, by the abnormality under consideration. The largest pelvis of this kind, whose dimensions have been recorded, is one described by Giles de la Tournette. The most important diameters were—

	Inches.
Antero-posterior of brim. . . .	5.5
Transverse of brim.	6.5
Antero-posterior of outlet. . . .	5.5
Transverse of outlet.	5.5

Dr. Barnes and Dr. Murphy have described pelves of nearly equal size. As regards the relation of increased capacity of the pelvis to the general conformation and stature of the individual, it may be stated as a general rule, that tall women are by no means likely to be the subjects of such increment; it has rather been observed that women of low stature, and with large heads, have the most capacious pelves. Some persons profess to discover a relation between the length of the phalanges of the fingers and the capacity of the pelvis, maintaining that women with curb fingers have small pelves, and *vice versâ.*

Flatness of the sacrum, with or without an alteration of the angle made by the sacrum with the vertebral column, is occasionally met with. The obvious consequences of this abnormality are, diminution of the antero-posterior diameter of the cavity of the pelvis, and obstruction to the intrapelvic rotation of the fœtal head. Increased curvature of the sacrum is generally connected with some morbid condition of the bones, but as a deformity, *per se*, it is not of great interest. In some rare cases of spinal deformity, the curve of the spine is so considerable that the lower lumbar vertebræ descend into the pelvis, and occasion a deformity equal in extent to a large exostosis, or the deformity of osteo-malacia. At the present time, these cases are attracting considerable attention in Germany.

Fractures and dislocations of the pelvis occasionally result in a diminution of its diameters. Such cases, however, must be very rare, as women are not generally exposed to those violent mechanical injuries which produce displacements, of any kind, of the various segments of the pelvis. Mr. Barlow, however, performed one of his successful cases of Cæsarian section in consequence of distortion, resulting from the fracture of an innominate bone. The rarity of fractures of the pelvis in women is compensated for, if the expression may be allowed, by the fact that they are generally attended with permanent displacement, or other results which tend to diminish the capacity of the pelvis. The deposit of callus which takes place would appear to be very erratic, and to have a tendency to encroach upon the cavity of the pelvis. Dr. Lever met with a case where there was a bony projection of more than an inch into the pelvic cavity, in consequence of a fracture of the acetabulum; and Burns relates a case where a similar ossific formation resulted from a similar injury, the projection being two inches long.

Miscellaneous deviations from a normal condition of the pelvis will include, in addition to those already mentioned, projections of various points of its osseous anatomy inwards, without any general vice of conformation; and the results of dislocations of the hip-joint, arising from morbus coxarius.

The study of the causes of those pelvic deformities which depend on irregularity of development or growth, is a subject of great interest, and one which has occupied the attention of many great obstetric authorities. These deformities have been explained in various ways, all having relation to the real or supposed laws under which the normal pelvis is developed. The latest hypotheses have been those advanced by MM. Dubois and Gavarret in France, and Dr. Matthews Duncan in this country. Dubois and Gavarret suppose the development of the sides of the pelvis to depend on the wedge-like pressure of the sacrum between the innominata. When anchylosis exists in one or both of the sacro-iliac synchondroses, they suppose the wedge-like pressure to be destroyed, and in place of the natural curve of the sides of the pelvis, the line becomes straightened. When the anchylosis affects one side only, the development of the affected side is interfered with, while the other half of the pelvis is developed in a normal manner, and oblique distortion is the result. When there is a double anchylosis, both sides of the pelvis are straightened, and the deformity, instead of being oblique, is symmetrical. Dr. Matthews Duncan controverts these views very forcibly. He believes that the lateral curve of the pelvis is produced by the pressure of the trunk above, and inferior extremities below, upon the sacral and cotyloid ends of the beams formed by the ilia. I believe the mechanical relations pointed out by Dubois and by Dr. Matthews Duncan really exist; that the sacrum acts as a wedge, and that the ilia acquire a tendency to curve from the pressure exerted by the sacrum from above, and the femora from below; but other considerations besides those of mere mechanical weight and pressure enter into the problem.

At the time of puberty we have the three permanent articulations the true pelvis—namely, the two sacro-iliac synchondroses and the symphysis pubis. We have also the Y-shaped triple articulation between the ilium, ischium, and pubes on each side. These make in all nine articulations, and seven separate bones for the true pelvis. These bones all grow from the centre to the circumference; and it is to their circumferential increase, taken collectively, that the expansion of the pelvis at puberty is attributable. It is not a little remarkable, that the division between the ischium, ilium, and pubes, should remain until after the completion of the development of puberty. The capacity of the pelvis must very much depend on the period at which the junction of these bones takes place. When anchylosis takes place between the sacrum and ilium, before the period of puberty, the circumferential increase of the aspects of the sacrum and ilium engaged in the articulation is impossible. Hence the arrest of growth on the anchylosed side of the pelvis upon which oblique deformity depends. This appears to me to be the chief element in the *rationale* of the oblique pelvis of Naëgelé. The medium of union between the sacrum and ilia, and the pubic bones at the symphysis, is very much more consolidated after than before the development of puberty. It is probable that when this consolidation and the obliteration of the Y-shaped articulation takes place early, we have, in some cases, the infantile, or equably-contracted pelvis. When it occurs late, we have, I would suggest, equably-enlarged pelvis.

In the case of early anchylosis of some of the cranial bones, we have flattening and diminution of the size of the head in the vicinity of the anchylosis. It appears to me, then, that the simpler explanation of the dependence of certain pelvic deformities upon the conditions of growth and development is much to be preferred to the recondite influence of mechanical and mathematical causes. Passing from the circumferential increase of the pelvic bones themselves at puberty to the cause of this increase, we come to the action of the ovaria. It is to the development and activity of the ovaria at puberty that the development of the pelvis at this epoch is due. Where the ovaria are wanting, the pelvis is not developed, just as in the case of the removal or absence of the testes the bones of the larynx do not undergo their usual development at puberty in the male.

Instruments for obtaining the internal and external admeasurements of the pelvis were formerly much used in the diagnosis of pelvic deformities, and in forming an estimate of the proper treatment to be pursued. They have, however ingenious, gradually given way, particularly in this country, to the use of the educated finger as the best of all pelvimeters. Before the coming on of labour, deformities of the pelvic brim may sometimes be measured by introducing the two first fingers and separating them so as to touch the promontory of the sacrum and of the symphysis pubis, and then altering their position so as to measure the transverse diameter. Where the deformity is high up, this manipulation fails, and it becomes necessary to introduce the whole hand into the vagina, when a satisfactory exploration can be made. Deformities of the outlet may be diagnosed by the finger alone, with sufficient readiness, by the practised accoucheur. Before the coming-on of labour, we have, in cases of deformity, to compare the diminished pelvis with the pelvis of average size. In actual parturition, we have to compare the deformed canal with the size of the fœtal head which has to descend through it. A given amount of deformity may of course be very formidable or of little import, according as the child is mature or premature, living or dead, or according as the head is large and ossification more or less perfect. In labour, it is more difficult to introduce the whole hand, but this is sometimes necessary and proper when the head, or presenting part, is arrested high up in the pelvis. The single finger passed in to its utmost length and rotated within the pelvis will seldom fail to inform us of the existence of deformity or diseased growths in the pelvis. This information having been acquired, we can introduce two or three fingers, or the whole hand, as may be necessary, to make out the special condition of the pelvis.

The Treatment of labour, complicated with deformed pelvis, varies according to the amount of impediment presented, and according to the risk in which the mother is placed by the energetic action of the expelling powers when the fœtus cannot pass through the pelvis in the ordinary manner. The aids to delivery, under these circumstances, are the Vectis, the short or long Forceps, according as the head may be arrested at the outlet or brim of the pelvis; Turning, in cases of shoulder presentation, and also in certain cases where the deformity is such as to warrant the belief that the head may be extracted, but where the forceps are inapplicable; Craniotomy, in cases where the head of the living child cannot pass, or where the continuance of labour, without assistance, endangers the life of the mother; and lastly, the Cæsarian Section, in cases where the delivery of the child by perforation and the crotchet is impossible. But before and beyond all these means, except in cases where the action of the Lever, or the compression and extraction exerted by the Forceps, is sufficient to give birth to the child alive, the remedy, or rather the preventive of danger, is to be found in the Induction of Premature Labour. A great and beneficent extension of the operation for the induction of premature labour may be made in these cases, and it is questionable, nay, almost certain, that the fatal operation of hysterotomy would rarely, if ever, be that those cases of unconscious or sudden delivery which are quoted in works on medical jurisprudence were to a certain extent connected with abnormal width of the pelvis. Narcotism arising from drugs or disease may abrogate consciousness during labour; but where neither of these circumstances obtains, diminished resistance on the part of the soft or bony passages must be looked to in explanation of the phenomena in question. The works of Dr. Taylor and Dr. Beck abound in cases of sudden and almost painless delivery, which can hardly be accounted for, except upon the supposition of there having been an enormously wide pelvis. Amongst the other effects of increased capacity of the pelvis upon the process of labour is, descent of the uterus while the fœtal head is still within the os uteri. Instances of this have been recorded, in which the fœtus has passed the external genital opening as far as the shoulders, the head being still closely invested by the uterus. Such a condition as this is obviously favourable to the occurrence of inversion of the uterus; and this latter may, in fact, be enumerated as one of the untoward circumstances to be apprehended in connexion with enlarged pelvis. Prolapse of the various viscera within the pelvis, and retroversion of the uterus, are conditions favoured, or likely to be induced, by the abnormality under consideration. The largest pelvis of this kind, whose dimensions have been recorded, is one described by Giles de la Tournette. The most important diameters were—

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At the time of puberty we have the three permanent articulations the true pelvis—namely, the two sacro-iliac synchondroses and the symphysis pubis. We have also the Y-shaped triple articulation between the ilium, ischium, and pubes on each side. These make in all nine articulations, and seven separate bones for the true pelvis. These bones all grow from the centre to the circumference; and it is to their circumferential increase, taken collectively, that the expansion of the pelvis at puberty is attributable. It is not a little remarkable, that the division between the ischium, ilium, and pubes, should remain until after the completion of the development of puberty. The capacity of the pelvis must very much depend on the period at which the junction of these bones takes place. When anchylosis takes place between the sacrum and ilium, before the period of puberty, the circumferential increase of the aspects of the sacrum and ilium engaged in the articulation is impossible. Hence the arrest of growth on the anchylosed side of the pelvis upon which oblique deformity depends. This appears to me to be the chief element in the *rationale* of the oblique pelvis of Naëgelé. The medium of union between the sacrum and ilia, and the pubic bones at the symphysis, is very much more consolidated after than before the development of puberty. It is probable that when this consolidation and the obliteration of the Y-shaped articulation takes place early, we have, in some cases, the infantile, or equably-contracted pelvis. When it occurs late, we have, I would suggest, equably-enlarged pelvis.

In the case of early anchylosis of some of the cranial bones, we have flattening and diminution of the size of the head in the vicinity of the anchylosis. It appears to me, then, that the simpler explanation of the dependence of certain pelvic deformities upon the conditions of growth and development is much to be preferred to the recondite influence of mechanical and mathematical causes. Passing from the circumferential increase of the pelvic bones themselves at puberty to the cause of this increase, we come to the action of the ovaria. It is to the development and activity of the ovaria at puberty that the development of the pelvis at this epoch is due. Where the ovaria are wanting, the pelvis is not developed, just as in the case of the removal or absence of the testes the bones of the larynx do not undergo their usual development at puberty in the male.

Instruments for obtaining the internal and external admeasurements of the pelvis were formerly much used in the diagnosis of pelvic deformities, and in forming an estimate of the proper treatment to be pursued. They have, however ingenious, gradually given way, particularly in this country, to the use of the educated finger as the best of all pelvimeters. Before the coming on of labour, deformities of the pelvic brim may sometimes be measured by introducing the two first fingers and separating them so as to touch the promontory of the sacrum and of the symphysis pubis, and then altering their position so as to measure the transverse diameter. Where the deformity is high up, this manipulation fails, and it becomes necessary to introduce the whole hand into the vagina, when a satisfactory exploration can be made. Deformities of the outlet may be diagnosed by the finger alone, with sufficient readiness, by the practised accoucheur. Before the coming-on of labour, we have, in cases of deformity, to compare the diminished pelvis with the pelvis of average size. In actual parturition, we have to compare the deformed canal with the size of the fœtal head which has to descend through it. A given amount of deformity may of course be very formidable or of little import, according as the child is mature or premature, living or dead, or according as the head is large and ossification more or less perfect. In labour, it is more difficult to introduce the whole hand, but this is sometimes necessary and proper when the head, or presenting part, is arrested high up in the pelvis. The single finger passed in to its utmost length and rotated within the pelvis will seldom fail to inform us of the existence of deformity or diseased growths in the pelvis. This information having been acquired, we can introduce two or three fingers, or the whole hand, as may be necessary, to make out the special condition of the pelvis.

The Treatment of labour, complicated with deformed pelvis, varies according to the amount of impediment presented, and according to the risk in which the mother is placed by the energetic action of the expelling powers when the fœtus cannot pass through the pelvis in the ordinary manner. The aids to delivery, under these circumstances, are the Vectis, the short or long Forceps, according as the head may be arrested at the outlet or brim of the pelvis; Turning, in cases of shoulder presentation, and also in certain cases where the deformity is such as to warrant the belief that the head may be extracted, but where the forceps are inapplicable; Craniotomy, in cases where the head of the living child cannot pass, or where the continuance of labour, without assistance, endangers the life of the mother; and lastly, the Cæsarian Section, in cases where the delivery of the child by perforation and the crotchet is impossible. But before and beyond all these means, except in cases where the action of the Lever, or the compression and extraction exerted by the Forceps, is sufficient to give birth to the child alive, the remedy, or rather the preventive of danger, is to be found in the Induction of Premature Labour. A great and beneficent extension of the operation for the induction of premature labour may be made in these cases, and it is questionable, nay, almost certain, that the fatal operation of hysterotomy would rarely, if ever, be called for, if this operation were always performed in cases of distortion, and at the proper time.

The cases and circumstances under which these several procedures become necessary, in the management of labour complicated with deformity, will be entered into fully when treating of these operations themselves in a subsequent part of the present course.

LECTURE XXXIII.

OBSTRUCTED LABOUR.

Gentlemen,—Having considered the subject of Pelvic Deformities in the two preceding lectures, I wish, before directing your attention to impediments connected with the Soft Parts, to say a few words respecting those morbid states of the Coccyx which interfere with labour. The joint between the first bone of the coccyx and the extremity of the sacrum may become anchylosed, or the mobility of the separate bones upon each other may be destroyed by bony deposit. Anchylosis of the coccyx may depend on inflammation, the result of blows or violence; scrofulous disease of the sacrum and coccyx; injuries occurring during difficult labours; or it may exist in women who become pregnant for the first time late in life. The coccyx may from these causes become fixed in its natural position, it may be curved forwards, or it may be bent at right angles with the extremity of the sacrum. In either case it may interfere with the progress of labour, but particularly when the bone is bent forward to a considerable extent. Sometimes, as in a case which recently fell under my observation, the coccyx is not only incurvated forwards, but it is considerably enlarged by scrofulous disease. Encroachment of the coccyx upon the diameter of the pelvis to such an extent as to interfere with labour, is not a very common event, but in the accumulated records of obstetric practice many cases are met with in which an anchylosed coccyx has interfered with the course of labour to such an extent as to destroy the child. In other cases, fracture of the coccyx has occurred from pressure of the head, and in some instances this operation has been performed by the accoucheur. The diagnosis of coccygeal anchylosis is not very difficult. The immovable bone can be felt by the finger in making an examination, and the extent of the impediment to the escape of the fœtus readily appreciated. The treatment in such cases must be either the application of the forceps, fracture of the anchylosed bone, or the induction of premature labour, in cases where the amount of impediment is great, and particularly where it has in previous labours led to the loss of the child. No serious injury has resulted from the breaking down of the anchylosis, either artificially or when this has occurred in the course of labour; but in some cases the bony union is so firm as to render this impossible, under the disadvantages at which the accoucheur is obliged to act. In many cases of otherwise natural labour, the coccyx is bent back to such a degree as to leave a painful condition of the bone for months, or even years, after the occurrence of labour. This state is generally relieved by counter-irritation over the sacrum.

Mechanical obstructions to the progress of labour, depending on the state of the Soft Parts of the Mother, may occur at any point of the parturient canal, between the uterus itself, and the external parts of generation. In managing such cases, we have to remove or diminish the obstructions to such an extent as to admit of the passage of the child; or we have to evade them by inducing premature labour, at a time when the size of the fœtus is such as to allow of its transit. In many of these cases, other considerations besides those relating to the mechanical obstruction to labour have to be taken into account. The obstructions themselves may depend upon constitutional states, or they may excite other disturbances apart from the impediments to labour.

When speaking of the management of ordinary labour, I have referred to those cases of rigidity of the os uteri which admit of relief without operative means. Occasionally cases are met with where the rigidity is excessively unyielding, or in which the matter passes beyond rigidity, and there is agglutination, occlusion, or entire obliteration of the os. This may exist to such an extent that labour becomes impossible, unless rupture of the cervix takes place, or artificial assistance can be rendered. In cases of this kind it has been known for the whole of the lower segment of the uterus to be separated in the form of a muscular ring, and detached from the rest of the uterus by the strength of the pains acting against an occluded os. Other patients have died undelivered, where rupture has not occurred, and where no operation has been performed.

Excessive rigidity can be readily understood, but entire occlusion of the os uteri is difficult of comprehension. The causes of this extraordinary state of things are, it must be confessed, involved in obscurity. It has been supposed by some authorities that the marginal surfaces of the os uteri adhere together as a consequence of inflammation or ulceration. Others believe that a false membrane is thrown out, which entirely seals the cavity of the uterus. Naëgelé, the younger, describes a thin membrane as being the medium of occlusion in certain cases. Many observers have declared their disbelief in the possibility of entire obliteration of the os, and have believed that in cases where it has been supposed to exist, the os uteri was only raised so high towards the sacrum by anteversion as to render it impossible to reach the aperture. So much concurrent testimony exists, however, in proof of the real occurrence of what appears to be entire obliteration, that the reality of its existence cannot be doubted. Dr. Ashwell relates a case in which incision was required in four successive labours in the same woman, attended by different practitioners. The os uteri could not be detected. Smellie, Hamilton, Naëgelé, Gooch, Dubois, and others, have also related cases in which there was entire or partial obliteration at the time of labour.

It is evident that even in the worst cases there must have been an os uteri to render conception possible. But in some women the os and cervix are very imperfectly developed in the unimpregnated state, the aperture remaining so small as not to admit a probe without difficulty. The degree to which the os and cervix develope during pregnancy is very different in different individuals, and I suspect that some at least of the cases of supposed occlusion of the os are in reality cases in which the fundus uteri has become developed to a normal extent under the influence of gestation; but the os, originally small, has remained altogether undeveloped, or nearly so. This explanation seems to me more in accordance with the known physiological history of the uterus than adhesion of the sides of the os, or the organization of a false membrane in the aperture. It can readily be understood that when the os has remained throughout pregnancy of the small size natural to some women in the unimpregnated state, it cannot be detected by the finger in the large surface presented by the expanded inferior segment of the uterus. In some of the cases in which incision has been practised, the os uteri has been examined a considerable time after labour, and the os and cervix have been found small and imperfect. Some cases of simple rigidity, no doubt, depend on the undeveloped state of the os uteri, the unyielding os of the unimpregnated state being as it were affixed to the gravid uterus. No doubt in other cases the rigidity depends on morbid conditions of the os uteri existing before the commencement of gestation, or the result of injuries inflicted in former labours. It is now known that slight laceration of the os uteri very frequently occurs during the passage of the head, and the cicatrizations resulting from such injuries may well give rise to subsequent rigidity of the os during labour. Adhesion of the openings of any of the orifices of the mucous canals of the body are, it is well known, exceedingly rare. In the most perfect cases of occluded os, it is found moreover that no signs of inflammation have existed during pregnancy. It is quite possible and probable that some of the cases of occlusion have been cases in which the os uteri was too high and directed too much backward to be reached in an ordinary examination. In a supposed case of this kind, it is very important to arrive at a correct diagnosis. Anteversion should be suspected, and the position of the uterus rectified when this state exists, before arriving at a positive conclusion. In making an examination in such a case, the finger should not be trusted to alone, since it cannot reach the os uteri, but the whole hand should be introduced into the vagina, and the posterior part of the lower segment of the uterus carefully explored. It has been found that, however small the os, if it can be detected, and the disposition to dilate imparted to it, the full dilatation is frequently expected. When other means fail, therefore, the lower segment of the uterus should be explored by the aid of the speculum, as an aperture so small as to escape the finger may become visible to the eye.

The treatment of such cases is a matter of very great importance. When the continuance of the pains of labour for some hours, and the use of venesection, opium, emetic tartar, or chloroform, have failed to cause dilatation, and when the patient is threatened with serious symptoms, it is necessary to use mechanical means for the dilatation of the os uteri. The choice lies between dilatation of the os with the finger, or with sponge tents, or the incision of the uterus at its thinnest portion. Of course, dilatation is only applicable to those cases in which the os can be found, but is so minute as to render delivery impossible without assistance. When dilatation can be effected without violence, no doubt it is to be preferred to the making of an artificial os. Hitherto, the finger or the bougie has been used for the purpose of dilating the os uteri, but I have no doubt the sponge tent will prove a more efficacious means of dilatation. When dilatation cannot be effected, and labour makes no progress whatever, incisions should be practised, the proper time for the operation being at that period when natural or artificial dilatation is shown to be impossible, and when the woman has nevertheless not as yet passed into a state of danger. The fatal cases which have occurred after incision are generally cases in which the operation has been too long delayed. As to the mode of operating, some have recommended numerous incisions round the real or supposed site of the os; others have recommended one incision, from before backwards, with a blunt-pointed bistoury. The reason for making an antero-posterior incision is, that the uterine arteries may not be wounded; but the bladder in front, and the rectum behind, must be carefully avoided. The incision need not be ot any considerable length, as it is enlarged subsequently to a sufficient extent by the pains. This operation, although never to be performed but on just grounds, is not so formidable as it would appear to be. I have already referred to the case of a woman in whom it was necessary in four consecutive labours, after all of which she recovered favourably.

In cases of Fibrous Tumour growing from or on the walls of the uterus, near the os and cervix, the tumour or tumours may descend in the pelvis before the head or presenting part of the child, and cause a very serious obstacle to the progress of labour. The diagnosis of such tumours from ovarian tumours is very difficult, unless made before the coming on of labour. The fibrous tumour is commonly more dense and irregular in shape than the ovarian. Wedged into the pelvis, these tumours not only obstruct labour, but are themselves injured and contused by long-continued compression between the fœtal head and the pelvis. In some of the fatal cases of this kind, the tumours have been found in a state of pulpy softening and disorganization. The secondary disease of the tumours has evidently, in such cases, contributed largely to the death of the patient. Cases have occurred in which, during labour, these tumours have been pushed by the hand of the accoucheur above the brim of the pelvis, so as to be removed from danger and the possibility of acting as an obstruction. In others, it has been necessary to use the forceps, or, in the worst cases, to perform craniotomy. Dr. Montgomery relates one in which the obstruction was so great that the Cæsarian section had to be performed. These serious results show very conclusively, that in all cases of fibrous tumours encroaching largely upon the pelvic brim, the induction of premature labour, as recommended by Dr. Ashwell, should be resorted to.

Carcinoma of the Os and Cervix Uteri, when the os is diseased to a great extent, sometimes presents an insuperable obstacle to the completion of delivery. Cases of this kind have occurred in which labour apparently did not come on at the usual time, but the fœtus remained for months after the full term in the uterus. When allowed to proceed without interruption, mangling of the os uteri, excessive hæmorrhage, and death, are almost inevitable. When the disease is detected early in pregnancy, premature labour should be induced. When pregnancy has passed to the full term, Professor Simpson has recommended vaginal hysterotomy, or the lateral incision of the os and cervix so as to admit of delivery with the aid of the forceps. In some cases of this kind, craniotomy is required. In one celebrated case, Dr. Oldham performed the Cæsarian section, the mother and child living for some time afterwards. In the worst cases of this kind, when the mother has but a short time to live, and when the child is healthy, the reasons for the performance of craniotomy and the Cæsarian section are more evenly balanced than in most others; but I incline to the former, since, in my opinion, the value of a brief space of existence to an adult mother, whose immortal interests are at stake, should outweigh the precarious life of the unconscious fœtus.

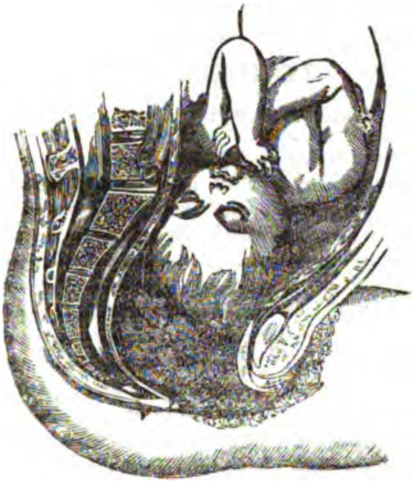
Contraction and rigidity of the Vagina may depend upon the age of the patient, the former existence of abscess, cancerous induration, cicatrizations following injuries occuring during instrumental or difficult delivery in former labours, the cicatrizations of pelvic abscess, recto-vaginal fistula, &c., and may consist of simple diminution of the calibre of the canal, puckering of its walls, the existence of bands or septa, and almost complete closure of the vagina, or Atresia. These contractions, which often become of cartilaginous hardness, are readily distinguished by the finger from any other form of impediment. It is remarkable what an amount of contraction may be reduced or drawn out by the pressure of the membranes and the advancing head, or presenting part, when the secretions are abundant, the progress of the labour moderate, and no inflammatory action is set up. There is in the vagina not merely the power of distension under pressure, but an active tendency to dilatation, similar to that possessed by the os uteri. In the management of these cases, it is important that the labour, particularly in the propulsive or expulsive stages, should be gradual; with this view, as well as the supply of fluid pressure, the membranes should be preserved as long as possible. Venesection, nauseating doses of tartar emetic, warm bathing, vaginal fomentations, and the relaxing effects of chloroform are useful in severe cases; and in those that do not yield to these measures, careful division of the constricted portions with the knife are necessary. When the deformity of the vagina is excessive, and cannot be remedied by these means, and when the life of the mother is threatened by the continuance of labour, craniotomy may become necessary. After delivery, these cases require careful management by fomentations and the use of antiphlogistic means to prevent inflammation and further contraction. When the patient is convalescent, bougies should be used with a view to prevent the interference of contraction with succeeding labours. Unless these precautions are used it may happen that complete atresia, with retention of the catamenia, may follow. Dr. Meigs has related such an instance, and not long since a similar case was seen in this hospital. Besides contraction of the passage, the vagina is in rare cases blocked up by Polypoid Tumours growing from its walls. Several cases of vaginal polypi are figured by M. Huguier. In labour occurring under such circumstances, it would be necessary to puncture these tumours when they contain fluid, or to remove them, when of a fibrous structure, by the scissors or polypus hook.

The area of the vagina may be intruded on by other tumours foreign to the vagina itself. Of these, Ovarian tumours, Polypoid tumours springing from the os or cervix uteri, Rectocele or Vesicocele, Fæcal collections, and Stone in the bladder are the most important.

The existence of Uterine Polypi commonly prevents impregnation, but cases occasionally occur in which gestation proceeds, notwithstanding their presence, or they are developed during pregnancy, and at the commencement of labour they emerge from the uterus, and prevent the progress of the fœtus. These growths arise from the labia uteri, the interior of the cervix, or the cavity of the uterus. When they arise from the lips of the uterus, they are frequently, as observed by Dr. Heming, hollow and contain fluid; but when attached to the neck or body of the organ, are of fibrous character and of larger size. Their attachment to the os uteri, or emergence from within the orifice, can be made out without great difficulty. Polypi have sometimes been detached from the uterus by the force of the pains. Where they are of such large size as to interfere with labour, the fluid tumours should be punctured, when they at once collapse; and the solid polypi should be removed either by ligature, torsion, or excision. (Fig. 143.)

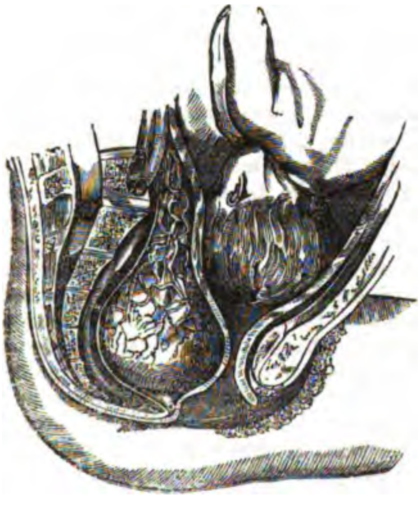
In cases of Ovarian Tumour, the important point is to distinguish between cysts containing fluid and solid tumours. The former have been safely punctured, as advised by Merriman and others. In the case of solid tumours, so large as to impede delivery, nothing can be done with the tumours themselves beyond attempting to lift the mass above the pelvic brim. When this is impracticable, it only remains to be considered whether the child can be delivered by the forceps, or whether craniotomy may become necessary. (Fig. 144.)

FIG. 143.



Labour impeded by uterine polypus.

FIG. 144.



Labour impeded by ovarian tumour.

In the case of Cystocele, the bladder, as described by the late Mr. Crosse, is prolapsed, and descends behind the pubes and before the head of the child. When full of urine it offers considerable resistance to delivery, and may itself become ruptured. This state does not, as is commonly supposed, depend on any neglect of the patient or accoucheur in evacuating the bladder, but arises from prolapsus of the bladder existing before and independent of pregnancy. It is remedied by catheterism, but it is necessary to pass the catheter downwards and backwards in such a case. Care is required in the diagnosis of this affection, as it has happened that the distended bladder has been mistaken for the amnion, and punctured under such misapprehension.

Impaction of Fæces in the Rectum may offer considerable impediment to labour. This may depend on simple constipation, or on the accumulation of magnesian deposits in patients accustomed to take this alkali freely for the relief of heartburn, or as an aperient. At first, some of these cases give one the impression of exostosis, but a careful examination detects the real nature of such tumours. The remedy of course consists in the removal of the indurated mass by enemata, or, in the worst cases, by a process of excavation. It sometimes happens that the posterior wall of the vagina is prolapsed, giving rise to rectocele. In the bag thus formed, fæcal accumulations may take place and encroach upon the vagina, but this state of things is readily removed by enemata.

Cases have been recorded by Guillimeau, Smellie, Dubois, and others, in which pregnancy has occurred coincidently with Calculus in the Bladder. When the stone is large, and descends before the fœtal head, delivery is sometimes rendered impossible. When it is small, the bladder may be lacerated, and vesico-vaginal fistula be the result. Some time ago, a patient was under the care of Mr. Brown in this hospital, whose bladder had been lacerated some years previously by a stone during labour, which had remained undetected in the bladder. The presence of stone cannot well be mistaken for any other contingency of labour, from its situation and moveable character. When the stone is detected early, it can generally be passed above the pubes, and little or no mischief results. When, on the other hand, the descent of the head and the size of the stone renders this impossible, the rule is to perform the operation of lithotomy through the vagina. Probably lithotrity would be the preferable operation in some of these cases; but I am not aware that it has ever been tried.

Labour may be obstructed, as pointed out by Hamilton and others, by diffuse swelling of the soft parts of the parturient canal. This is very apt to complicate labour depending upon obstruction of any special kind. In cases of deformed pelvis, for instance, there is commonly considerable swelling of the soft parts, the result of pressure. In other cases, the tumefaction depends upon plethora, or excitement of the passage under the influence of the normal pressure incidental to labour. The treatment of such cases, as far as the tumefaction is concerned, depends on antimonials, venesection, and careful evacuation of the bladder and rectum.

Numerous cases are on record, and I have myself met with instances, in which women with a cribriform Hymen, or with the hymen in a state of almost cartilaginous hardness, and an aperture of small size, have become pregnant, and the structure has remained undisturbed until it came to be an impediment to labour. The pains of expulsion would no doubt in all such cases tear through this obstruction, but it is much less painful to make a crucial incision before the parts have become distended; still better, this operation should be performed, when the nature of the case is known, during pregnancy, and such cases generally are known, because women in whom intercourse has been imperfect, mistake the signs of pregnancy for a tumour or suppression of some kind, and apply for advice.

The obstructions limited to the Vulva consist of a Varicose state of the labia, Œdema of the labia or nymphæ, and Encysted or Fibrous tumours of the labia. The enlargements mentioned are generally connected with hyperæsthesia of these sensitive parts, and the suffering they occasion is usually of greater consequence than their mechanical interference with parturition. In the case of extensive œdema from the pressure of the gravid uterus in the latter part of labour, or from the existence of albuminuria, it may be necessary to puncture the skin in several places with a fine needle, as recommended by the late Mr. Ingledue, in order to let off the effused fluid, particularly when this state of things occurs in a primiparous woman. Occasionally the swelling in these cases is enormous, and it is difficult or impossible to make an examination. Sometimes fomentations will relieve the pain, and promote the relaxation of the skin to such a degree, that, with patience, the fœtal head passes. The ergot of rye is useful in some of these cases, and is to be preferred to the forceps, as causing less risk of laceration. It is only with great difficulty that the forceps can be used in considerable swellings of the external parts, and the risk of lacerating the vulva or perinæum with the instrument is very great. When œdematous swellings of the vulva are neglected, serious consequences may ensue. Cases are recorded in which sloughing has occurred from this condition, to such an extent as to destroy the patient. In Thrombus, or in varicose states of the vulva, pressure should be exerted on the parts, or cold applied during the pains, so as, if possible, to prevent excessive dilatation and bursting and effusion into the cellular structure of the labia. It is generally at the moment when the head passes that the varicose tumour bursts from excessive distension. In cases where the effusion takes place before the termination of labour, little can be done beyond the use of pressure and cold, as the blood rapidly coagulates in the cellular tissue, and cannot be evacuated by puncture. Obstruction of the vulva from large encysted tumours (unless the contents are fluid), or fibrous tumours of the vagina, the latter of which sometimes grow to an immense size, can only be dealt with efficiently before the coming on of labour, or before the advent of pregnancy itself. When the encysted tumours contain fluid, as in the case described by M. Huguier, puncture by a fine trocar will produce immediate relief. In rare cases, the perinæum is so rigid and unyielding as to offer an obstacle to the advance of the head. Under these circumstances, when fomentations, tartar emetic, venesection, and chloroform, have been inefficient, it has been recommended that the perinæum should be incised. Incision is believed to prevent extensive laceration, and the incised wound heals readily after labour. The force of the uterus would, in almost all cases, overcome or break through the impediment offered by a rigid perinæum, so that we must look on incision of the perinæum as a preventive of laceration rather than a means of removing obstruction.

LECTURE XXXIV.

TARDY AND PRECIPITATE LABOURS.

Gentlemen,—In a great number of the difficult cases of midwifery, we have to deal either with Excessive or Deficient action of the Uterus and of those organs which are associated with the womb in childbirth. Sometimes this excess or deficiency depends upon other causes than the uterus itself, but in a great number of cases, inertia or excessive activity of the organ play important parts, and it will be very useful in a practical point of view to consider the nature and tendencies of the two great and opposite classes of difficult labour thus produced. They throw mutual light upon each other, when we study attentively their nature and causes, and the several accidents and complications they tend to produce.

Twenty-four hours is the time which has been accepted with nearly common consent amongst accoucheurs, as the limit beyond which a strictly natural labour should not pass. It is, however, equally agreed that little or no mischief can be caused by any ordinary extension of time in the early stage of labour, before the os uteri has dilated widely, and before the membranes have broken. The vast majority of labours are finished much within the time mentioned, especially in multiparous women, but individual cases are met with in which labour extends beyond twenty-four hours without any other morbid element saving that of simple protraction. Still the statistical inquiries of Dr. Simpson and others have proved to a demonstration that the great proportion of fatal and dangerous results, both to mother and child, is met with in cases in which labour is prolonged over the natural time, and the extent of this mortality increases according to the time to which the protraction of the labour extends. On the other hand, excessively rapid labours have their peculiar risks to the mother and child, though this class of dangerous labours is much less numerous than that depending upon protracted labour. In both protracted and precipitate labours, other matters play important parts, besides the activity and excessive action of the uterus; but the state of the uterus and expelling powers, in these cases, is sufficiently important to merit our special study.

In the lecture on the Nervi-Motor Actions of the Uterus, I have entered pretty fully upon the nature of the expelling powers which accomplish the act of parturition. The causes which interfere with these powers, so as to produce parturient inertia or excess, are very numerous and varied. Upon their proper comprehension, our means of relieving the inactivity or violence of the organ will very much depend. Let us, then, in the first instance consider the subject Tardy Labour, from inertia of the uterus, and other parturient powers.

In some constitutions, particularly those of lymphatic habit, the action and development of the uterus is naturally feeble. General debility during pregnancy, or at the time of labour, from whatever cause arising, produces inactivity of the uterus and the abdominal muscles. The uterus acts more feebly in hot than in cold climates, in the heat of summer than in winter; and some of the most distinct cases of uterine inertia to be met with in this country occur in women who have been enervated by long residence in the tropics. Age is another source of deficient uterine action. When a woman becomes pregnant for the first time towards the close of the child-bearing epoch, the pains of labour are less powerful than in the case of a younger female. In the cases I have seen of precocious pregnancy, when very young girls have become mothers, the labours have been tardy, and the pains less powerful than natural. It is also found, that in women who have borne many children in rapid succession, the powers of the uterus decline during the later labours. This is contrary to what occurs in the history of any other muscle of the human economy, and many observers of the fact have been puzzled to explain it. If, however, we take into account the gradual development of the nuclear muscular structure in the virgin, its gradual decline towards and after the end of the child-bearing epoch, and the circumstance that a new set of fibres have to be produced in the gravid uterus in each successive pregnancy, we shall readily understand why the organ of the very young gravid woman, of the patient becoming pregnant for the first time late in life, or of the multiparous woman, whose uterus has been developed and redeveloped a great many times in the space of a few years, should not be according to the most perfect type. The state of the mind in controlling uterine action is also very remarkable. The Protean influence of emotion may act as a powerful oxytocic, or it may entirely suspend the uterine action. The unexpected entrance of the accoucheur, the receipt of some sudden intelligence, a thunder-storm, or, in fact, any emotional disturbance whatever, may arrest labour in mid-career, and it may be some hours before the action of the uterus is resumed. I have seen, on more than one occasion, chloroform produce tardy labour, by weakening, or for the time arresting, the action of the uterus.

Various matters relating to the position of the uterus, and the condition of the parts which are indirectly concerned in the uterine efforts, have a tendency to prevent their full development. The effects of the position of the womb are so remarkable as to have attracted the attention of the best obstetricians. In the ordinary uterine position, at the commencement and during the progress of labour, the axis of the uterus coincides with the axis of the inlet of the pelvis. In anteversion from a pendulous state of the abdomen, this correspondence between the axes of the uterus and the upper part of the canal is destroyed, and the organ acts at a great disadvantage. The force exercised by the uterus is in the direction of its own axis, and, in anteversion, this urges the presenting part of the child, not into and through the pelvis, but against the promontory of the sacrum or last lumbar vertebra. Under these circumstances, the action of the uterus is inefficient, and it is, moreover, less powerful than ordinary. In those rare cases of partial retroversion which continue up to the time of childbirth, the uterus also acts at a great mechanical disadvantage. Such is also the case when, from rigidity of the abdominal parietes, the use of tight stays or bandages, or other causes, the position of the gravid uterus is more vertical than it ought to be. In both retroversion and in the more common vertical derangement of the uterine axis, the imperfect pains urge the head or presenting part of the child, not into the pelvis, but against the pubic arch. Wigand has beautifully described and figured these displacements as a cause of tardy labour. He shows that part of the difficulty in the case of dwarfs arises from anteversion of the gravid uterus. These results are also increased or diminished by the position assumed by the patient during labour.

In the erect position, or when the patient lies on her back, any tendency to retroversion or a vertical position is increased. When the axis of the uterus approaches the vertical direction, the woman will often instinctively lie on her side, and bend her body forwards; or, if in the upright position, she will stoop, so as to bring the axis of the uterus into correspondence with the axis of the pelvic inlet. It is the province of the accoucheur in all cases to bear these facts in mind, and to act upon them, so as to produce the proper physiological coincidence between the axes of the expelling organ, and the bony canal which the fœtus has to enter and pass. That common form of obstructed labour in which the anterior lip of the uterus descends before the head and is squeezed for hours between the pubes and the head of the child, is, in the majority of cases, connected with anteversion, and the direction of the aperture of the os towards the upper part of the sacrum. The remedy for this state of things consists more in rectifying the anteversion in the early part of labour than in any pressure or manipulation of the os uteri itself. In cases of anteversion, when the head or presenting part is driving against the upper part of the sacrum, placing the patient on her back, or supporting the uterus with an abdominal bandage, will bring the uterus and pelvis into harmony with each other, and a fœtus which no power could move onwards, while the mal-position of the uterus continued, now enters the pelvis with ease. The anteversion of the uterus is sometimes caused, not by a mere relaxation of the abdominal muscles, but by a positive breach in their structure, as in cases of large umbilical hernia, in which condition the inertia of anteversion, and the want of the normal support of the uterus by the abdominal muscles, should always be foreseen.

Labour is observed to be slow and tardy in cases of double or bicorned uterus. This, as formerly shown, is an approach to that which obtains in the lower animals as the normal condition of the organ. In this anatomical state of the womb, it is found to be thinner than in the perfect uterus of the human female. With the lower animals the thin, bicorned uterus has no powerful action during parturition. Its function is to bring the fœtuses to the os uteri, where they are successively grasped by the powerful muscular structure of the vagina, and delivery is gradually effected. When the human female has the uterus after the imperfect duplex type, the vagina being with her an organ of little parturient value, and the obstructions incident to the human pelvis being in full force, labour is performed under great disadvantages; the action of the uterus especially is liable to be imperfect, and easily exhausted.

Inflammation of the uterus, rheumatism, gout, and neuralgia affecting the organ, sometimes retard labour to a considerable extent. The excessive suffering produced by the pains prevents their full development. Besides the positive feebleness or inertia of the uterus produced by the various causes which have been enumerated, labour is often retarded by partial contractions of the uterus. The uterus contracts under such circumstances in a spasmodic and irregular manner, or, instead of the uterus, the abdominal muscles, or the muscles of the inferior extremities, are thrown into a state of spasmodic or cramp-like contraction at each pain. The great cause of this state of things, as formerly shown by Dr. Power and other obstetricians, is intestinal irritation.

The course of labour should run in a certain definite and regular manner. At first the actions are simple, and the uterus alone is concerned. As it proceeds it becomes more complicated, and the nervi-motor actions are more intense. The uterus, under the stimulus of labour, becomes more and more powerful until it accomplishes delivery. But if baulked in its natural course, the uterus and associated organs are very apt to fall into a state of partial inertia. Thus, a dose of opium, or too early rupture of the membranes, occurring either spontaneously or by the act of the accoucheur, will often impede labour for many hours. The same thing happens when the membranes remain too long unruptured. The uterus now refuses, as it were, to go beyond the stage of dilatation, while the liquor amnii is retained. Although as a general rule the early rupture of the membranes retards labour, cases occur in which the evacuation of the waters increases the uterine efforts. These cases occur in women when the quantity of liquor amnii is very small, and when the puncture of the membranes at once brings the solid parts of the child in full contact with the uterine parietes; or in cases of distension of the uterus by excess of the amniotic fluid, where the action of the uterus is simply impeded by over-distension

In some patients labour is retarded in the propulsive and expulsive stages, not only by the withdrawal of any effort of volition which could aid the process, but by a perverted voluntary interference with the natural course of the pains. If, in the stage of dilatation, women are permitted to make voluntary efforts, they become fatigued when the voluntary efforts are really required. In the stages of dilatation, the reflex and voluntary efforts should partially or entirely close the glottis, so that the distended thorax may act as a fixed point for the efforts of the voluntary muscles; but some women delay labour by excessive timidity, opening the glottis during the whole of the pains, refusing all voluntary effort, and causing lingering, or comparatively powerless labours.

Uterine inertia may supervene in the course of a labour which has commenced in a natural manner, and proceeded to a certain extent in the ordinary course. The uterus is apparently not strong enough to continue its contractions, grows more and more feeble, and at length comes, as it were, to a dead stop. After an interval of rest, it acquires a new supply of nervi-motor power, and the pains return in some cases, but in others they are not resuscitated, and the patient, if left to herself, would pass through the symptoms of arrested labour, and die undelivered. Entire and persistent failure of uterine action is always a sign of a state of considerable danger to the lying-in woman. The pains have acted in the nature of shock to the system, and when labour is uncompleted, the fœtus remains in the passages, pressing on the hard and soft parts of the mother, and constituting a grave source of irritation and peril. Although the child no longer irritates the nervi-motor apparatus of the uterus and the rest of the parturient canal, it is a powerful irritant to the vascular and other tissues with which it is in contact. The natural secretions are arrested, the parts become hot and dry, tumefaction of the soft structures occurs, sanious and fœtid discharges are set up, sloughing occurs, and, unless rescued from this state, the woman perishes from the combined effect of the shock to the nervous system incident to labour, and the irritation and exhaustion produced by the presence of the fœtus in the parturient canal. In these cases, shock is felt more than in cases of healthy labour, and there is something peculiarly noxious to the system in the presence of the fœtus in the passages in a half-delivered state. This state of things belongs to the past, and to the age of the ignorant midwife, rather than to the present day, and we may congratulate ourselves that such cases are now only seen as rare exceptions. We may hope and expect that, in the progress of obstetric knowledge, the death of women from exhaustion consequent upon lingering labour, where the muscular powers are at fault, but where no insurmountable mechanical difficulty exists, will become impossible.

One class of tardy labours depends on faulty action of the expelling powers which act in harmony with the uterus. A variety of causes interfere with the voluntary and reflex action of the respiratory muscles. In cases of labour occurring in phthisical patients, and various diseases of the lungs, such as bronchitis, pneumonia, and pleuritis, the distension of the chest, closure of the glottis, and powerful expiratory actions of respiratory muscles, are all impeded. Sometimes labour comes on at the natural term in chronic pulmonary disease; in others, the lungs are the subject of acute disorder, and labour is excited by the local disease. In both, particularly the latter, labour is impeded, painful, and most distressing to the patient. In paraplegia, the parturient woman is cut off from the aid of voluntary and reflex respiratory action. In the various forms of cardiac disease, and in abdominal maladies, the auxiliary powers which aid the uterus in the propulsive or expulsive stages, can only be brought into operation in a very imperfect manner. In a former lecture I have spoken of ovarian and fibrous tumours as offering mechanical impediments to the passage of the child. In cases where these tumours are above the pelvic brim, the action of the uterus and of the abdominal muscles are interfered with by the pressure and bulk of the tumours. The respiratory actions of labour are necessarily imperfect in ascites and in ovarian dropsy. General plethora, and in particular a fatty state of the omentum and [abdominal parietes, frequently interfere with uterine and respiratory action.

The prevention of tardy labour will be best insured by preserving the course of parturition in as natural a track as possible. With this end we should attend to the time at which the liquor amnii escapes, aim at a proper harmony between the axes of the uterus and the pelvic inlet, encourage the voluntary efforts at the proper stages, and discourage them before the full dilatation of the os uteri; avoid opiates or sedatives of uterine action when there is any apprehension of feeble labour; remove intestinal or gastric irritation by an aperient or enemata, and encouraging vomiting; preserve the confidence and mental tone of the patient; and give moderate and sustained support and stimulus during labour, particularly in the early stages.

In tardy labour, the pains are more powerful in the upright than in the recumbent position, and the patient may be encouraged to walk about and to stand up, leaning on a chair or supported by the nurse, during the pains. An abdominal bandage will often have the best effect, apart from any influence in correcting anteversion, by supporting the abdominal muscles and exerting the stimulus of pressure upon the uterus. Vomiting, sneezing, coughing, the action of the bowels, all tend to excite the uterus; and the administration of a brisk purgative enema is often most effective in rousing the uterus from a state of atony or torpor. I have formerly mentioned that the examinations of the accoucheur have a tendency to excite uterine contraction. In powerless labours, digitation should be more freely resorted to than in other cases; and when making examinations, firm pressure should be made on the perinæum, this being the seat of a considerable number of excito-motor nerves in relation with the uterus.

When labour is arrested in mid-course, or towards its termination, the uterus and its associated muscles often begin to act again after a short interval of rest. In cases of this kind great good is frequently done by a full opiate, particularly in cases where the preliminary part of labour has been tedious, and the patient has long been without sleep. After a few hours' rest, the uterus will resume its work with energy, and the patient, refreshed by repose, will go on favourably to the termination of labour. Such cases must, however, be carefully distinguished from those in which exhaustion of the body generally, and of the uterus in particular, has been induced to such an extent as to be beyond the power of restoration by temporary rest, and which rest from the pains, before the completion of delivery, is a deceitful truce, and in itself an exhausting and dangerous condition to the the patient.

Cases of retarded labour from the disease of other organs, particularly the lungs and heart, require to be treated with reference to the extra-uterine disorder. I shall have to discuss, when treating of the induction of premature labour, the propriety of artificial delivery in cases of the occurrence of acute pulmonary disease in the latter part of pregnancy, and also in cases of chronic heart disease. During the occurrence of actual labour, under these circumstances, all we can do is to avoid every unnecessary exertion or excitement. I have already mentioned that, in cases of inflammatory disease occurring to the gravid woman, the symptoms are preternaturally acute, and generally require decisive treatment. When the uterus is inactive from inflammatory, rheumatic, or gouty disorder, bleeding and antimonials are required.

In entire arrest of labour from failure of uterine action, when nothing is hoped from rest, we have to resort to oxytoxic remedies, and to instrumental delivery. Ergot of rye, galvanism, borax, and cinnamon, are the chief agents by which we can act upon the uterus, and I propose hereafter to devote a lecture to the special properties of oxytoxic remedies. The ergot is of all the most powerful and certain, and in half drachm doses of the powder, infused in boiling water, and taken every ten minutes, to the extent of three or four doses, it will generally excite the uterus, unless the tone of the organ is entirely exhausted. On account of the spastic contractions of the uterus, caused by this medicine, which interferes with the utero-placental and perhaps also from some specific influence upon the circulation of the fœtus, the state of the child should always be watched while the mother is under the influence of ergot, and delivery completed by the forceps, if the action of the fœtal heart is quickened to any great extent. In uterine inertia, as in all other cases, the os uteri must be dilated, or readily dilatable, before the ergot can be given with safety, and there should be no extra-uterine impediment to delivery. The ergot is especially suited for those cases of uterine inertia in which rapid delivery is not called for, and when the head of the child is not low down enough to render the application of the forceps easy. Dr. Vernon, the very able obstetric resident of this hospital, has recently given small doses of strychnia in cases of labour marked by pure uterine atony with good effect.

Where the symptoms are urgent, as regards either the mother or the child, particularly the former, the long forceps, when the head is at the brim, or the short forceps or vectis, when the head is sufficiently low, are called for, and, in extreme cases of danger to the mother, craniotomy becomes necessary. In cases where the child is already dead, and cannot be delivered immediately by the forceps, the operation of craniotomy and extraction by the crotchet should be performed. A train of serious symptoms often follow upon deliveries marked by uterine inertia. These will have to be considered separately, the most important of them being non-detachment, or non-expulsioh, of the placenta, and post-partum hæmorrhage.

We have next to consider the opposite state of things, or Precipitate Labour, from violent or excessive action of the uterus and its associated muscles.

The great majority of precipitate labours depend upon the constitution and temperament of the mother. As some women and some families always have slow and lingering labours, so others invariably complete the process in a rapid and powerful manner. Nothing can be more in contrast than the strong parturient action of the well-fed, hard-worked, and exposed woman in agricultural districts, and the more feeble powers of the denizen of large towns of the same rank. Fortunately, with the diminished power, there is also diminished resistance, from relaxation of the tissues, otherwise difficult labour would be far more frequent than it is in such cases. In the robust countrywoman the resistance to be overcome increases, to some degree, in proportion to the strength and excitability of the nerve and muscular fibre. In women of powerful nervous and muscular endowment, under any circumstances, labour sometimes becomes almost tetanoid in character.

It is observed that women who have been the subjects of dysmenorrhœa, suffer from painful and violent labours probably from the persistence of ovarian excitement up to and during the process of parturition. Some women, particularly hysterical subjects, increase the pains of labour to a dangerous extent by passionate and uncontrollable voluntary efforts during the stages of propulsion and expulsion. Dystocia of this kind may depend on a small quantity of liquor amnii, when the uterus is well developed, and the nervi-motor powers of the mother active. This is because the body and limbs of the fœtus are from the first in contact with the uterus, and because solid, rather than fluid pressure is directed against the os uteri during the stage of dilatation. The early rupture of the membranes, occasionally, instead of retarding labour, brings on a perfect storm of uterine action. Fear, terror, and mental emotion of any kind will sometimes render labour acute to an extraordinary degree. The most rapid action of the uterus, we can conceive, is that in which the child is expelled partly through the influence of terror, in cases of sudden death, as in drowning or suffocation. Under such circumstances, the whole process of delivery, at the full term, has been completed in a few minutes. Here the oxytocic effects of the carbonic acid retained in the blood concur with mortal anguish and the act of dissolution itself, in evacuating the womb. In the febrile condition, and blood-poisoning, which obtains in small-pox, and scarlet fever, and albuminuria, labour is usually rapid from excessive uterine action. It is scarcely necessary to refer to the injudicious administration of the ergot of rye as a cause of precipitate labour. Cases of rapid labour from the great size of the pelvis belong altogether to a different category from that we have now been considering.

The management of precipitate labour consists in the avoidance and removal of its causes, and the employment of palliatives of uterine action.

The position of the patient in cases of acute and violent labour should be the recumbent from the first. Mental and physical stimulus of all kinds should be avoided as much as possible. No examinations beyond those actually necessary to ascertain the presentation of the course of labour, and to aid the passage of the fœtus through the external parts, should be made. In cases of constipation and fæcal accumulation in the rectum, the bowels should be cleared by mild enemata. When the uterine action is increased, and aided by the uncontrollable volition of the patient, the remedy consists in encouraging her to cry out lustily, during which all voluntary action is impossible. It was a pious fraud recommended by Denman, to tell the woman in the latter part of labour, the child was already born, when she was in danger of laceration, and thus to make her cease from the expulsion. Venesection, nauseating doses of tartar emetic, a full opiate, or chloroform, are the most powerful sedatives of uterine action which we possess.

The train of evils produced by precipitate labour is scarcely less dangerous than that following in the wake of tardy labour. Amongst the accidents produced by excessive uterine action, we have rupture of the uterus, laceration of the perinæum, retention of the placenta from closure of the os uteri, hour-glass contraction, inversion of the uterus, and prolapsus and procidentia. In rare cases, when the pelvis is large or the child small, the violent uterine and abdominal action brings down the uterus, and we have procidentia during the act of labour. Such cases require careful support of the uterus by the hand or a bandage, to keep the mischief as limited as possible. It has also been observed that puerperal mania has a tendency to follow precipitate labours. In some cases apoplexy or convulsions are caused during the violence of the pains. In precipitate labour, the state of the child must be attended to. The incessant uterine action sometimes destroys it by asphyxia, from arrest of the utero-placental circulation. The fœtus is occasionally extruded with such violence as to snap the umbilical cord: this is particularly the case when the mother is allowed to be delivered in the upright position. Under the same circumstances, the child may be seriously injured by being shot out with violence upon the floor. I once knew a case of precipitate labour in which the patient, not supposing delivery to be near, insisted upon going to the water-closet, and the child being suddenly discharged into the pan, had to be rescued from the peril of death from drowning, as well as mechanical injury. On a former occasion this patient had dropped or expelled the child upon the floor, while standing at the bottom of the bed. Cases of this kind have a medico-legal bearing. It is, of course, of the highest importance to distinguish between cases of accidental birth of the child, while the mother is at the closet, and premeditated infanticide.

Clinical Lectures
ON
PARALYSIS.

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LECTURE I.

Gentlemen,—Two cases of paraplegia, or palsy of the lower half of the body, now under my care in this hospital enable me to call your attention in this course of Clinical Lectures to the important subject of paralysis. Paralysis is a term much used out of the profession, and but little understood. It is employed by non-professional persons to designate a cause, not an effect. It is therefore possible that many of you, who are now only commencing your studies, still in the embryonic condition of medical pupilage, may have the same vague ideas of the meaning of the term, and none, I am sure, can know too much, think too deeply, or observe too closely, all that relates to this important subject. The practitioner who can diagnose correctly the causes of paralysis in its early states, will often save both the life and the intellect of his patient; the man who mistakes it, often sacrifices both to his ignorance. The diagnosis and treatment of paralysis fall alike to the physician, the surgeon, and the general practitioner. Woe to you, my young friends, if you do not avail yourselves of the opportunities which the large wards of this noble hospital afford. In a clinical lecture I shall not, of course, enter into a minute disquisition on paralysis, but I must say a few words for the instruction of my younger hearers.

Paralysis may be general or local. Its proximate or immediate cause may be pressure on some portion of the nervous system, or disorganization of it. The ultimate cause may be local violence, such as a fracture of the skull or of the vertebral column, effusion of blood as in apoplexy, or a mere "coup de vent," or blast of cold air on the face, inducing facial paralysis or palsy of the portio dura. I have lately had two well-marked cases of local paralysis from a railway accident. In the one there was a deep lacerated wound above the eye, which divided the supra-orbital nerve, and the upper part of the forehead was quite numb; there was entire loss of sensation in that portion of skin which is supplied in a normal state by that nerve. In the other case the auricular nerve, one of the sensory branches of the fifth, was torn through under the skin without any external wound; the skin covering that side of the head was devoid of sensation.

That form of blindness which the ophthalmic surgeon knows under the title of amaurosis, and the public by the name of gutta serena, is a palsy of the optic nerve, sometimes induced by pressure in the globe of the eye, sometimes by pressure on the nerve in its course from the brain, and sometimes by disease of the brain itself; and so I might continue for the next half-hour to give you illustrations of individual forms of paralysis, but, trusting that I have said enough to make you understand the meaning of the term, I shall advance at once to special instances of this disease, in the hope of assisting you to distinguish some of its most important and most frequently recurring forms. I wish to assist you especially to distinguish between paralysis arising from disease or injury of the spinal cord and that from disease or injury of the brain. Now, many of the older students will perhaps think this a most easy matter—that a man must be a fool who cannot do so at once—but I assure you that this is a mistake.

In the early stages of paralysis it is often by no means easy to do so. I have lately seen two cases, in private practice, in which it was difficult to diagnose the seat of the disease. In one, a case of spinal paralysis, the disease presented so many of the characters of the general palsy of the insane, that a very intelligent practitioner was inclined to regard it as one of the instances of that sad and I believe irremediable disease. The other, which has since proved to be a complete case of cerebral palsy, was in its early stages supposed to be a true spinal affection. In the first case the patient is recovering; in the other he is sinking into a state of hopeless dementia. As I shall relate the first case at length, I will not say more about it at present. Of the case of general paralysis and dementia I will say a few words.

The subject of it is one who was once as strong and as healthy as any one of you, but his business was an exciting one, requiring great energy, and tasking the brain to its utmost. In order to supply, and, as he believed, by necessity, the waste which his mental and bodily work created, he used to take a large quantity of wine, thus adding fuel to the fire which was kindled within him. I do not mean that he was intemperate in a worldly sense, for a man may take a great deal more of stimulants than is beneficial to his organization without exhibiting any signs of injury at the time; but of this be certain, that if you want to keep your brains in a state of healthful mental activity, you will take very little. The country gentleman and farmer of the old school might drink their wine, their brandy, and their beer, with comparative impunity, for their brains were dormant, and these were the only stimulants their brains received; but woe to the man of intellect, the man who has to live by the sweat of his brain, if he attempts to supply by fermented liquors the loss occasioned by mental labour. He may feel better for a time, but he is sure to sink more rapidly in the end. There was another habit, also, in which my patient indulged, and which I cannot but regard as the curse of the present age. I mean smoking. Now, don't be frightened, my young friends, I am not going to give a sermon against smoking—that is not my business; but it is my business to point out to you all the various and insidious causes of general paralysis, and smoking is one of them. I know of no *single* vice which does so much harm as smoking. It is a snare and a delusion. It soothes the excited nervous system at the time, to render it more irritable and more feeble ultimately. It is like opium in that respect, and if you want to know all the wretchedness which this drug can produce, you should read the "Confessions of an Opium-eater." I can always distinguish by his complexion a man who smokes much, and the appearance which the fauces present is an unerring guide to the habits of such a man. I believe that cases of general paralysis are more frequent in England than they used to be, and I suspect that smoking tobacco is one of the causes of that increase.

But I must not detain you any longer from the immediate subject of this clinique. The two cases now in the hospital that I am about to relate, from the notes of my dresser, Mr. Sprakeling, are both cases of spinal paralysis, the one induced by the pressure of an angular curvature of the dorsal portion of the vertebral canal, the other by a blow on the lumbar portion.

William W——, aged thirty-two, compositor, was admitted into Abraham's ward on the 17th of June, 1856. He is an unhealthy, strumous looking man, who states that he never noticed any projection or curvature of the spine till six months ago, but since that time has noticed it gradually coming on. (Let me here remark that this angular curvature is almost always a strumous disease, commencing in the cancellated structure of the bodies of the vertebræ. If you look at this preparation, you will see exactly how it occurs. The body of one or more of the vertebræ being absorbed, the bones above and below fall forward, so as to meet and supply the vacancy. If it were not for this arrangement, our patient's life would not be worth an hour's purchase; for the beautiful protective apparatus of the spinal cord being deficient, its delicate and soft substance would be torn in the first movement that was made. Instead of being slightly pressed, as at present, it would be divided. The angle of the back is the proof that the column is not separated in front.) About six weeks ago, he first began to be sensible of some alteration of temperature in the lower limbs, with numbness and occasional twitchings and rigidity of them. He then began to lose power in them, and for the last three weeks they have been totally paralysed. At present, there appears to be an angular curvature of the spine in the dorsal region; he seems to have lost the use of the lower extremities entirely, but, with the exception of the feet, there is no very perceptible coldness; he has, however, lost almost entirely the sensibility of them. There are occasional spasmodic twitchings and startings of the limbs, but there does not appear to be any tightness over the chest, or dyspnœa. The bowels are costive, but he has not lost control of the sphincters. He has, at times, some difficulty in micturating, with frequent desire to do so, but inability properly to empty his bladder. There appears at present considerable tympanitis, but no great distension of the bladder. His appetite is deficient; urine clear and unsedimentous; pulse 92, of considerable power; tongue clean. Ordered mercury with chalk, two grains every night. A moxa on each side of the spine. (Believing that the cause of the paralysis in this case is the pressure caused by effusion into the canal at the seat of the angular curvature, I have ordered those remedies which I think are more likely to promote the absorption of the offending matter.) He has never injured the spine from a blow or a fall.

June 25th.—States that he has felt some tingling in the toes and foot, but there is no increase of sensibility in the paralysed limbs. He is suffering from indigestion. Dyspeptic mixture, one ounce, to be taken twice a day.

27th.—There seems to be a slight increase of sensibility in the left foot and leg. He suffers a good deal from tympanitis. The bowels are only relieved by aperients.

July 5th.—There is still a good deal of tympanitis, and he complains, and has complained for this last week, of pain in the right hypochondriac region, where there is some tenderness on pressure. The bowels are relaxed. There is a decided increase of sensation in both legs. Pulse small and feeble; tongue clean. Aspect rather improved, as also is his appetite.

11th.—Complained on the 9th of a good deal of pain in the bowels and in the right hypochondrium. Ordered, iodide of mercury, half a grain, opium, half a grain, every night. To-day he seems somewhat relieved from the pain, but complains of a good deal of general weakness. Pulse 84, weak; tongue clean.

19th.—He does not complain of so much pain in the right hypochondrium or in the bowels. There has been no further improvement in sensation; there are dull aching pains now and then in the legs, with spasmodic startings of them. (I regard these aching pains as a favourable sign; they always precede the natural sensation in the part. I dare say that some of you who are working hard at your profession all day in the hospital have a nap afterwards, previous to commencing your evening work. Occasionally, one of your legs falls asleep, as the ordinary expression is, and it does not awake with the rest of the body. Your leg, in fact, is numb and powerless from pressure on the nerves, usually the popliteal. Now, you must all have remarked that before the natural sensation returns, a most unnatural and painful sensation precedes it,—a tingling, or "pins and needles," as we call it. This, on a small scale, and acting very quickly in your persons, is identical with that which is going on more slowly, but I believe as surely, in this patient.) The tongue is clean. The moxa having healed, a fresh one was made to-day.

26th.—He continues much the same.

31st.—Much in the same state.

Aug. 3rd.—The moxa repeated. Ordered mixed diet.

21st.—He has improved but slightly. He states that he often feels pricking sensations and startings in the limbs. Sensation has slightly increased, but there is no power of locomotion. His bowels have lately been much confined, but he has experienced considerable relief, and has felt himself better, after an aperient taken yesterday. He states also that his appetite has much improved, and he feels altogether stronger since he has taken the cod-liver oil. Pulse 84, firmer.

26th.—He thinks that sensation in his legs has further increased. Ordered mercury with chalk, two grains every night.

Sept. 20th.—Repeat moxa. Compound rhubarb pill, five grains every night.

Oct. 8th.—Within this last fortnight he fancies that there has been a diminution of sensation. Up to this time, the paralytic symptoms have remained much in the same state. At present, he has very little feeling in the right leg when touched, sensation appearing to be more perfect in the left. His general health, up to the last three or four days, has improved; he is now, however, complaining of being weak and low-spirited; pulse 76, small and weak; bowels are now confined. To take, iodide of mercury, half a grain, every night.

14th.—The paralytic symptoms remain much in the same state. Sensation varies a good deal, being more perfect on one day than on another, but the power of locomotion has not increased. He is often troubled to retain his urine. The state of the bowels varies, being sometimes relaxed, and sometimes confined; pulse small and weak.

Nov. 7th.—Still improving.

I have very great hopes that this man will perfectly recover. It may require some faith on your part to believe me when I say that those limbs which are now so senseless and motionless, will again support his body, obey his commands, and be recognized again by their sensation as a part of his living structure. I have seen and published the recovery of cases quite as unpromising as this. It may take some months yet to accomplish it, but happily, in an hospital, we are not liable to be cut off in our course of treatment by the impatience of the patient or his friends.

In the next case we shall find the improvement more rapid.

Eleanor V——, aged fifty, housekeeper, admitted into Queen's Ward, August 19th, 1856. She is a hearty, strong woman, of florid complexion, who states that she has occasionally suffered from rheumatism, and had an attack of fever twelve years ago, but, with these exceptions, had always enjoyed good health up to her present illness. She states that her mother and three sisters died consumptive, but her father was always a healthy man, and died at the age of seventy-three years. She ascribes her present condition to a fall she had down-stairs two years ago, whereby she hurt "the lower part of her back." Directly after this fall she felt total loss of power in the legs, with numbness, which lasted about an hour, after which she was able to get up and walk about. Soon afterwards, however, she noticed great coldness of the lower extremities, with loss of power in them, which symptoms have gradually increased up to the present time. There is now some coldness of the feet, but not of the legs. There is great loss of power in the legs, and a considerable loss of sensation, but no numbness. She can walk, but is obliged to be supported to prevent her falling. She suffers also from startings and prickings in the legs, and when she moves them, she states that she feels pain in the back. There is no abnormal curvature or malformation of the spine, but she experiences considerable pain when the second or third lower lumbar vertebræ are struck. There is slight incontinence of urine, but her bowels are regular. Her general health and assimilative powers are good. Pulse 120; tongue slightly coated; she has occasional rigors. There is a small ulcer on the left leg, about the size of a sixpence, with a broad red circumference. She was ordered to take two grains of calomel and half a grain of opium every night. Moxa to be made on the side of the spine; water dressing to be applied to the ulcer.

Aug. 27th.—She thinks that she can move her legs better, and sensation in them has increased; her gums are sore from the mercury. Omit pill.

Sept. 3rd.—She has been gradually improving. She can now stand up for a considerable time, and without pain. The issue continues to discharge well. She says she feels herself getting stronger, and can walk from one end of the ward to the other without support. Bowels regular; tongue clean; pulse 98, tolerably firm; appetite good.

11th.—Still improving. The sensation in her legs has returned perfectly within the last three days, and she can stand up for a longer time than she could. Appetite good; bowels regular.

13th.—She says that she can feel a sensible improvement in herself every day. Yesterday she could stand up for a much longer time than usual. She is very comfortable and cheerful.

19th.—Improving daily. Yesterday she was able to walk to the end of the ward and back again without any assistance. Feels very well, but rather weak.

24th (Wednesday).—Last Saturday she began to sit up all day, and has continued to do so till the present time; but she is not so well to-day, and is weaker in the limbs. She was ordered to keep her bed again, to have another issue made in her back, and to take one ounce and a half of iodine mixture twice a day.

30th.—Much the same. She has not been out of bed since the issue was made, and feels out of health from having caught cold. Tongue rather furred; bowels regular. Ordered one grain of iodide of mercury and half a grain of opium every night.

Oct. 7th.—She has recovered from the cold, and feels considerably better. Tongue cleaner.

13th.—The gums are now swollen and tender. She can now raise her legs up in bed, whilst lying in the recumbent position, which she was unable to do on her admission. She also, this morning, walked across the ward without assistance. She is now able to retain the urine, and the bowels act regularly. Sensation in the legs is perfect. She is not troubled with prickings or startings in the legs now. Pulse full; appetite good.

One peculiarity in this case—and it is a peculiarity of great importance in a practical point of view—is the length of time which elapsed between the occurrence of the injury and the paralytic symptoms—nearly two years. Let this fact warn you, when you are engaged in private practice, to give a very guarded prognosis of the consequences which may ensue from a blow on the spine, and let it remind you to inquire particularly as to the antecedents in a case of paraplegia, where the causes are obscure and the diagnosis consequently difficult. This again brings to my mind the case that I referred to at the commencement of the lecture, and which I wish to relate to you in connexion with this subject; but I find by the time which has elapsed I must reserve it for another time.

LECTURE II.

In my last lecture I referred to a case of paralysis which I considered so instructive that I feel no apology is necessary for again introducing it to your notice, although it has not occupied a bed in the hospital. The diagnosis was obscure, and at first there was no palpable cause of the paralysis: the history gave us the clue. This history is peculiarly instructive. It will show how an injury, which at the time of its occurrence was thought lightly of, was ultimately the cause of much suffering and distress. It will be a warning to you to treat seriously all severe blows on the spine, and to give a guarded prognosis as to the future. It shows also that the advent of serious symptoms in such cases is very varied, and sometimes so obscure that the real nature of the disease may easily be mistaken and misunderstood.

H. P——, a stout, tall, muscular man, aged fifty-six, of regular temperate habits, in comfortable circumstances, and free from any serious causes of anxiety, first consulted me, by the advice of his usual medical attendant, Mr. Carpenter of Croydon, on the 24th of January, 1856; from him I principally obtained the following history:—He has suffered, for the last eight or nine years, from a relaxed condition of the mucous membrane, at times affecting the bowels, but more especially the throat and bronchial membrane. In 1851 there was a great deal of general debility and rheumatism, and he was then much benefited by the baths at Buxton. In 1852 he was still out of health, and took riding exercise. In September of the same year, when near his own door, and sitting carelessly on his horse, the animal suddenly started, and threw him on the ground, striking the loins violently. He rose, almost at once, and, declaring himself but little hurt, walked home. But after an hour or two he experienced violent pain in the loins, lower part of the back, and stomach; and he was lifted into bed with difficulty. For a few days the lower limbs were almost powerless and slightly numb. His bowels would not act without medicine, and appeared to him to be partially paralysed; his medical attendant at the time told him it was so. Frequent use of the hip-bath restored him rapidly, and within a fortnight he resumed his usual active habits, feeling no effects whatever from the accident. Indeed so complete apparently was the recovery that he forgot the accident, and never attributed his present condition in any way to its occurrence.

About a year after this he stumbled in going down-stairs, missed his footing, but recovered himself by great muscular exertion. He felt the jar of this very much at the time, and I have no doubt of this second accident having contributed to the mischief from which he afterwards suffered.

The next circumstance in his life that should be referred to as possibly bearing on his symptoms is that he was called upon, by the death of his managing partner, to take a very active share in his business, both mentally and physically; in fact that more work was thrown upon the brain than it had been accustomed to. In addition to this, he moved from a healthy, airy situation to a damp and confined locality, and with it a total change of habits as to exercise and recreation. He worked hard for rather more than two years, when his health began to give way; that was about June, 1855. He became at times restless, excited, and unnaturally irritable, yet refusing to take any relaxation; very sensitive to sudden sounds or jolts in a carriage, however slight, and was out of spirits about his own health.

August, 1855.—He complained of pain and stiffness in the neck, which was attributed to a cold caught by sitting in a draught, and was treated as such with lotions and embrocations as for a stiff neck. The pain fluctuated, but neither it nor the stiffness ever entirely subsided. Flying rheumatic pains attacked him, and his whole state of health and spirits gave great anxiety to his family. Not yielding to the medical treatment which was adopted, he very reluctantly agreed to go to Brighton for a week. With the first day's rest he seemed to break down. The rheumatic pains about the back, chest, and limbs became very severe, the stiffness of the neck increased, and in about a fortnight afterwards he became subject to spasms round the loins which he described as clipping him, and was attributed to a loaded state of the colon. The bowels were sluggish and flatulent. The spasms abated a little after a course of aperient medicine, but they never subsided till towards the end of January, 1856. The rheumatic pains ceased in December, but the limbs became more and more powerless, and the stiffness of the neck increased. A blister was applied, which relieved him for a few days only. Mustard poultices were tried in the region of the spasms, and several embrocations, some containing chloroform, but without any effect. The bowels never acted without medicine, and even then they appeared to him to act without any control or will of his own, but as if the fæces came away simply by their own weight. The urine at this time became turbid. The sleep at night was very disturbed from pain, and was accompanied by profuse perspirations, which became very offensive.

A slight rally enabled Mr. P—— to leave Brighton, and return home, but he then became rapidly worse, all the above-named symptoms increasing in intensity; the countenance became drawn, the complexion livid, the look when asleep distressing, the lips and eyelids unclosed and drawn as in a dying man. His intellect was as clear as ever, but he could not attend to business without producing headache, flushing of the face, and a quickened pulse, and when over, immediate sleep, as if from exhaustion. At this time, though usually extremely cheerful, he could not bear the sound of more than one voice, and anything like a discussion was most distressing.

Up to this period, the remedies were directed to his general health. A pill containing a small quantity of mercury, to act upon the liver, hydriodate of potash after every meal, cod-liver oil and quinine, and a sedative at night of aconite and cajeput oil. Mr. Carpenter, who saw him at this time (Dec. 29th), has thus described his condition:—

"As I entered the room, he rose, by the assistance of his hands upon the sofa, and jerked himself into the erect posture; he then walked forward a step or two, slowly and steadily, as if balancing himself upon his legs, with the feet somewhat separated. Whilst speaking to him, he had a spasm, which caused him to exclaim. This he referred to his sides. When he sat down again, it was with a sudden drop, and, if he wished to lie down on the sofa, he was obliged to raise his legs into the horizontal posture by means of his hands, or by his attendant's assistance. When he had been in the recumbent posture for a short time his limbs became stiff, as if the joints were rusty, and he was obliged to have them moved before he could use them himself. His nights were disturbed with frequent spasms, some of them producing a complete shriek. They were increased if he tried to lie on his side, especially on the right. I also noticed at this time a certain degree of tremulousness in his speech, with a certain amount of restlessness, which, after a few days of careful watching, led me to fear the supervention of general paralysis. Every unfavourable symptom was aggravated by any exercise of the mind, and the least attention to business was followed by a greater want of power. His flesh felt firm, and the pulse was quite regular and steady, about 74; tongue clean; skin moist."

This gentleman, in continuation, remarked, "There was now and then sudden loss of power in the right leg and arm, which soon passed off, but it left a weakness and numbness for some time."

It was about this time that I was first called in by the earnest wish of the gentlemen in attendance, for neither the patient nor his wife, who is a remarkably intelligent woman, were at all alarmed by these symptoms. They regarded them as simple indications of disturbed digestive organs, and rheumatism, and as they have told me since, that when Mr. C—— first hinted at paralysis, they thought it was the error of a young practitioner. Now, however, they are aware how much they owe to his careful observation.

When I first saw this case I found it very difficult to determine in what portion of the nervous system was the disease on which the paralysis depended. There was much that pointed to the brain as the seat of the disease—viz., the unnatural irritability, and inability to attend to business; but these symptoms, as I have already mentioned, I have often seen accompanying disease and disturbance of the spinal cord, especially in its early stages. The spinal cord is never seriously affected without the brain sympathising.

[You will find in the 35th volume of the *Medical Gazette*, a most interesting case of spinal paralysis, attended with much disturbance of the brain, detailed in a clinical lecture which I then gave on this subject. The history was drawn up by the patient, himself a medical man. He has now recovered from the paralytic affection, and that his mind was not injured, you will well understand me when I tell you that he is one of the most intelligent contributors to Dr. Forbes Winslow's admirable *Psychological Journal*

The hesitation in his speech, and manner of speaking, was not unnatural to him, though, if new, it might have been considered indicative of disease. The paralytic affection being more marked on the right side of the body was in itself very suggestive of disease on one side; brain hemiplegic.

To those of my hearers who are young in the profession I may observe that, if we have disease on the left side of the brain, so certainly do we have paralysis on the opposite side of the body, and *vice versâ*. The anatomical reason for this you will soon discover in the decussation of the motor and sensory tracts in the medulla oblongata. But, my friends, you must not regard such a sign as deciding the question. You may have the disease so limited to one side of the spinal cord, and to the nerves of one side of the body, that hemiplegia may exist without cerebral disease; and such, I am happy to say, proved to be the case in this instance.

The cause of this hemiplegia appeared demonstrated a few days afterwards in the shape of a large swelling extending down the right side of the vertebral column, especially in the lumbar region. The history of the case also indicated the spinal cord and its nerves as the seat of mischief. We could not but remember that, at the time of the first accident he had, though only for a short time, the same amount of paralysis. Having, then, determined that the lesion was of the spinal cord, not of the brain, we still had to determine whether the spinal cord was affected secondarily, through an injury or disease of the bones and intervertebral substance, or through some disease of the ligaments. You have already observed, in the instance of the poor fellow whose case I related in my last lecture, how sensitive the spine is over the seat of disease, and I know no deviation from this rule. In a doubtful case, where there is no deformity to guide you to the seat of the disease, the locality is almost invariably detected by tapping the spine from the head to the tail. This should be done with great care. In some the diseased spot is exquisitely tender, and in all pain, or at least a jarring sensation, is perceived on reaching it. But in this case no amount of tapping over the bones of the vertebræ elicited the slightest painful sensation.

The next point to decide was, the condition of the ligaments. This was tested by requiring our patient to twist his spine himself; or, in other words, to put first one set of ligaments on the stretch, and then another. These movements immediately gave him pain, more especially in the lumbar region. He could not rotate the upper part of the body on the lower without enduring, not merely pain, but sometimes positive spasm of the diaphragm, sometimes cramps in the glutei muscles and sometimes in the psoas. Pressure on the right side of the spinous processes of the eighth dorsal vertebra, where he said the spasm seemed to spring from, also was distressing to him.

In addition to the symptoms of paralysis which have been already mentioned, I must not omit to describe his condition in bed. He was so utterly unable to turn himself over, or to raise himself from the recumbent position, without assistance, that a naval friend contrived a system of ropes and pulleys, by which his wife was able to hoist him up without assistance.

Having, then, decided on the seat of the disease, we had next to consider the extent and cause of the lesion. We could not but remember the accident in seeking for a cause. The paralysis which existed at that time, though very evanescent, was identical in extent and character. Still it was strange that it did not reappear earlier. The rheumatic diathesis served as an explanation to much which would otherwise have been mysterious. You must all know that if any man who has had a sprain or an injury to a joint is attacked with rheumatism there, it is sure to find out the injured part, and first locate itself there. And so I believe in this case, which we now regarded as one of rheumatic inflammation of the ligaments of the spine causing some effusion into the vertebral canal, and consequently pressure either on the cord itself, or, more probably, on the nerves in their exit. The swelling on the right side of the spine confirmed this view. It was the serous effusion which we see always taking place in the neighbourhood of joints suffering from disease of ligaments or cartilages. We have two or three good illustrations of this fact in the hospital, more particularly of the knee-joint. The swelling is not caused by the enlargement of the tissues which are inflamed, but by serous infiltration of the cellular tissue which surrounds the joint. It was upon this view of the case that I made a deep incision through this swelling down to the spine; and the relief afforded by this "stab in the back," as my friend called it, was immense. From that time the improvement in his paralytic symptoms may be first dated. But, in explaining the pathology of the case, I am forestalling my account of our treatment.

His urine was loaded with lithates, and was evacuated easily; the action from the bowels was still leaden and scybalous, and only procured by constant purgatives and enemata. There were also frequent feelings of faintness, which induced him to take freely of stimulants. On examining the action of the ribs, it was found that they did not move freely, and that respiration was in a great measure performed by the diaphragm, whilst the stethoscope did not detect anything abnormal in the lungs or heart. The first medicine employed was the iodide of potassium, but without much improvement. Strychnine was next given in small doses, in compliance with the suggestion of one of his former attendants, but for only a few days, as it seemed to be prejudicial.

On the 26th of January the caustic potash was applied to the neighbourhood of the eighth dorsal vertebra, and a slough, about the size of a florin, was the result; at the same time, hyoscyamus pill, four grains, with compound extract of colocynth, one grain, was given every night, and an occasional calomel and scammony pill as an aperient. The slough was more than nine weeks in separating. About the same period, also, attention was paid to his position whilst in the recumbent posture, and he found great comfort from one of Alderman's prone couches. The quantity of stimulants was much diminished; claret was substituted for the Spanish wines and beer. Under this plan of treatment the spasms became less frequent, the loss of power in the right side not so evident, and the power of voluntary expulsion from the rectum returned, the bowels acting therefore more regularly.

Feb. 29th.—The tongue, mouth, and throat presented several little ulcers, which teased him, and somewhat increased his distaste for food, although he still ate heartily. His medicine was now changed for a short time for the nitro-muriatic acid; but on the third of March, as there was no improvement of his paralysis, the bichloride of mercury was given, whilst the compound iodine ointment was freely applied all over the back, especially upon the now considerably increased enlargement on the right side of the vertebral column. About this time he had a frequent hard and straining cough, with the occasional expectoration of a teaspoonful of blood. No source of this hæmorrhage could be detected by stethoscopic examination; we therefore concluded that it came from some ulcer in the pharynx, of which we could see several in the throat. A soothing cough mixture was prescribed for this, and in a short time it subsided, as the ulcers healed, and it has never returned.

March 11th.—The first issue being nearly healed, a second application of the potassa fusa was made a little to the right side of the sixth cervical vertebra. The slough from this separated much more rapidly than on the previous occasion, at the same time the gums began to show evidence of mercurial action, and his general condition improved very much.

19th.—We ordered one grain of iodide of mercury, and this was continued until May 28th, the gums being kept slightly tender. Aperients were given occasionally when the bowels required them.

The rectum had now completely recovered its power, and his rest at night was very satisfactory. After the 5th of April, the back was painted with iodine regularly, so as to remove the cuticle frequently, and the potassa fusa applied for the last time to the lowest issue.

About the end of April he began to complain rather more of the pains in his neck and back of the head, principally indicating the edges of the trapezius muscle. He also suffered more frequently from cramps of the thigh and glutei muscles. About this time swellings took place on the sternum, and over the sterno-clavicular and costal articulations, soft and fluctuating, evidently periosteal, not painful, but tender to the touch, and evidently still more interfering with the movements of the thorax. We combated the disease of the spine by the application of blisters to the nape of the neck, and very stimulating embrocations. The power of the legs kept gradually and more rapidly increasing, and with the relief he became more cheerful and more active.

The mercury was omitted on the 28th of May, and the guaiacum mixture with colchicum given three times daily; belladonna and opium freely rubbed in between the shoulders; occasional blisters applied to the chest, and at times a brisk purgative given. The improvement continued without any interruption, except that he suffered rather more pain with the changes of weather; but he was now able to take a good deal of exercise, and he walked without any appearance of paralysis.

Early in July, he went to Buxton, but he did not derive much benefit from the baths on this occasion. Since he returned home, he has, however, been gradually improving, and has evidently derived benefit from the lemon-juice which he has been taking since his return. In fact, he may now be considered convalescent as far as the paralysis is concerned, and the rheumatic poison is fast abandoning its varied position, so that in a short time I think the whole territory will be pronounced free from disease.

The practical instruction which you derive from this case is the fact that all cases of paralysis are not incurable; that your success, however, depends on a correct diagnosis, for there can be no doubt that if this case had been treated as one of those sad cases of general paralysis accompanied with general debility, by means of tonics, &c., that the disease would have been aggravated, and perhaps incurable. If, on the other hand, the paralysis had been entirely ignored, and the case treated as one of congestion of the liver and obstinate constipation, the spinal disease would have advanced unchecked until the structure of the spinal cord had become irremediably disorganized by the pressure exercised by periosteal and ligamentous thickening, with serous effusion. If, on the other hand, it had been one of those cases of anæmic or asthenic paraplegia, which are so insidious and so obstinate, where there is no evidence of any disease of the protective apparatus of the spinal cord, then all our issues, blisters, iodine ointment, and other local counterirritants, with the internal administration of mercury, would have rendered the disease still worse, and hastened the fatal tendency. In these cases, gentlemen, a correct diagnosis is everything, and the rarity of the case must be my excuse for its relation, in the hope of assisting you in recognising its features, if such should at any future time present itself to you in practice.

Original Papers.

ON THE TUBULAR TREATMENT OF STRICTURES OF THE URETHRA AND OTHER MUCOUS CANALS.

By Thomas Wakley, Esq., F.R.C.S.,
SURGEON TO THE ROYAL FREE HOSPITAL.

(Read before the Medical Society of London, Nov. 22, 1856.)

Five years have now elapsed since I had the honour of introducing to the notice of this Society a set of newly designed instruments for the Treatment of Strictures of the Urethra. The justly-acquired celebrity of this Association for the encouragement given by it to the authors and promoters of all improvements in the science of medicine, emboldened me to take that step. The new instruments, therefore, and the novel system of treatment which they were intended to establish, were brought under the consideration of the profession through the influential medium of the Medical Society of London. To that circumstance I attribute, in great measure, the attention that the subject at once received from practitioners of distinction and acknowledged standing and ability. The modes of treatment practised at that time were all more or less unsatisfactory; much diversity of opinion prevailed respecting them, and frequently all were tried without any permanent beneficial results being obtained. The forcible and frequent introduction of bougies and caustics into a delicate and sensitive canal, and the division of the implicated structures by cutting instruments, whether used internally or externally, appeared to me to be violent modes of proceeding, which might be entirely supplanted by an operation of a mild description, that approximated more closely to a scientific application of the mechanical means placed at our disposal. All surgeons of any experience had witnessed the failure of the systems of treatment ordinarily pursued. Besides, it must be confessed that it was not failure alone that was to be regretted; but tedious, protracted confinement, and sometimes even fatal catastrophes had to be deplored. The difficulties, annoyances, and disappointments, which seemed to be frequently the most inevitable attendants of the measures adopted in the treatment of stricture, pointed significantly to the establishment of another system—to one that should place the obstructed canal more completely under the control of the surgeon—to one that would afford prompt and at the same time permanent relief, and without destroying in the slightest degree any of the natural tissues at or near to the parts implicated.

It was under the influence of these views and impressions that a plan of treatment was devised, which, after the first introduction of the smallest possible instrument into the bladder, secured to the operator the perfect command of the disordered canal, and thenceforth enabled the surgeon to introduce dilating tubes at pleasure, without the risk or the possibility of *making* or even *entering* a false passage in the urinary canal. Such were the hopes and anticipations entertained, when Mr. Williams, of the firm of Weiss and Co., kindly undertook to construct for me a set of instruments on the principle of those now placed before you, and he is but too well acquainted with the trouble and anxiety which the new undertaking occasioned; but, happily, success—the most agreeable of all rewards—has crowned our efforts.

At first, the expectations that were entertained were only supported by theory. The utility of these instruments now rests on that rock whereon is sustained all that is valuable in our profession—namely, experience. Since the instruments were first introduced to the notice of this Society, hundreds of sets of them have found their way into public institutions and private practice, and I have the best authority for stating that they have been distributed throughout numerous parts of the globe.

Objections to their employment were necessarily anticipated, but certainly not the extraordinary one that they would give the surgeon *too* much power over the disease which his skill is called upon to remove. A similar objection, without doubt, might be urged against almost every useful instrument employed in surgery. The possession of power is undoubtedly requisite in order to accomplish the object contemplated, but a proper exercise of the judgment of the surgeon is necessary for the due performance of all operations that he may undertake. These instruments have been used by surgeons of great eminence and ability, who have spoken of them in terms of high commendation. I may mention in this place the names of Guthrie, Keate, Fergusson, Crampton, Liddell, Solly, Coulson, and Lizars. Since the tubular treatment of stricture was first introduced to the notice of the profession, it has been adopted in hundreds of cases under my own observation, with almost invariable benefit, even where difficult complications existed, such as lesion of the urethra, from whatever causes produced, urinary fistula, false passages, and vesical calculi, and without, I believe, a single fatal event. The results of the tubular treatment of stricture have been so satisfactory that it would be a dereliction of duty not to endeavour to draw attention to what these instruments have already accomplished, with a view to their more extended operation and general adoption.

The instruments are composed of three guides of different sizes, eleven dilating silver tubes, and the same number of flexible tubes. The guides are numbered 1, 3, and 5.

A guide consists of a hollow silver director, thirteen inches in length, straight, excepting near the end, which is slightly curved, the extremity being closed and rounded, and having an aperture at one side. A moveable handle is fitted to it, for assisting its introduction into the bladder; when this has been effected the handle is removed, and a steel rod of the same size, five inches in length, is fixed into the external extremity of the director by one turn of a screw. This now forms the urethral director, over which the tubes are made to pass.

The silver tubes are nine inches in length, and straight; the opening at the vesical extremity being bevelled off and exactly adjusted to the surface of the guides. The upper end terminates in two flanges, for being worked with the fingers and thumb.

The flexible tubes are manufactured of gum-elastic, lined with flexible metal, and are ten and a half inches long, conical towards their points. Like the silver tubes, they glide over the guide with the greatest precision. Their upper end is furnished with a silver collar and rings, to enable their being secured in the urethra. Both the flexible and the silver tubes are numbered, and work upon their corresponding guides.

It is my object, however, on this occasion, to refer not only to what has already been accomplished in treating strictures of the urethra on the tubular plan, but also to urge that the same principles of mechanism may be beneficially applied to the treatment of strictures of other mucous canals, as the rectum and œsophagus, for the dilatation of the neck of the uterus, and also for the introduction of a large-sized O'Beirne's tube. The various mucous canals of the body are very similar in their structure, and are liable to similar diseases, especially contractions, resulting, in many instances, from like causes. Indeed, the term "Diseases of the Mucous Canals of the Body" appears very naturally to include a set of maladies analogous in kind. The instruments usually employed in the treatment of stricture of the urethra resemble in principle and form the bougies used for stricture of the rectum, and also those for stricture of the œsophagus. The object to be attined in all cases is the same—vz., the dilatation of the canal to its normal calibre. In addition to the new instruments for dilating the urethra, others formed on the same principle for dilation of the rectum, the œsophagus, and the uterine neck are now upon the table, and their mode of action will be shown to you by their manufacturer, who is present.

It forms no part of my intention at this time to enter into any discussion on the relative merits of different and rival plans of treatment, and I disavow any desire of detracting from the scientific efforts of other surgeons who employ other systems, and who adopt other methods advocated by once eminent surgical practitioners, who have passed from the scene of our labors.

Probably it may be stated with confidence, that in forty-nine cases of stricture of the urethra out of fifty, in which any instrument can be passed into the urethra, the application of cutting instruments, or of caustics, or any other means interfering with the normal structures of the urinary canal, might be entirely avoided by the tubular system of treatment.

That the mode now recommended is consistent with the anatomy and pathology of the structures involved cannot be questioned; and the advantage of effecting a cure without causing any breaches of healthy textures is equally free from dispute. The infliction of wounds even trivial in extent, in persons having depraved or debilitated constitutions, is often attended with great danger, and is not unfrequently followed by the worst results.

The mechanical power which the guide and tubes place at the disposal of the surgeon is unquestionable. It is absurd, however, to pretend that any resemblance exists between that power and the forcible catheterism of M. Boyer, as has been stated. The difference of action in the two cases being taken into account, a striking *contrast*, instead of the smallest resemblance, will be rendered obvious. In the French system, the catheter is forcibly directed towards the bladder, without any guiding implement whatever, the surgeon relying simply on his knowledge of anatomy. The tubular dilators, on the contrary, are passed over a guide, and cannot by any possible means diverge from the natural course of the canal,—an advantage peculiar to this system of treatment; and it would be difficult to overrate its importance as a source of safety to the patient. With the guide and tubes, it has been found that the rapid and permanent dilatation of a stricture can be accomplished in the most prompt and effectual manner, and, at the same time, the proceeding may be so cautiously regulated as to afford the patient the utmost possible protection against the application of all unnecessary force.

After the *last* silver tube has been passed at any sitting, an elastic one may be introduced, and left in the canal, the guide being withdrawn through it. The utility of leaving a flexible instrument in the canal has been described by Sir Benjamin Brodie, in his Lecture on Surgery, in the following terms:—

"This method is particularly applicable—

"1st, Where time is of much value, and it is of great consequence to the patient to obtain a cure as soon as possible.

"2nd, Where a stricture is gristly and cartilaginous, and therefore not readily dilated by ordinary means.

"3rd, Where, from the long continuance of the disease, the urethra has become irregular in shape, or where a false passage has been made by previous mismanagement.

"Now if, instead of a bougie, you use a gum-catheter, and allow it to remain, the urine flowing through the catheter, the contact of it with the urethra is prevented, and the rigor is prevented also."*

The flexible tube therefore will not only furnish the ready means for re-introducing the guide without the danger, or even the possibility, of making or entering a false passage, but it appears by its action to maintain the dilatation which the tubes produce, and to promote the rapid absorption of the submucous deposits, which, in many cases, caused the obstruction of the canal. In a word, the permanent cure of strictures of the urethra by the plan of the tubular treatment depends mainly on the thorough absorption of the extraneous substance usually interfering with the normal condition of the urinary canal.

When once a guide has been introduced into the bladder, the power of the operator over the stricture is all but unlimited. The late Mr. Guthrie, to whom this Society is indebted for many highly valuable communications, has stated, in his work on "Diseases of the Urinary Organs," that it is impossible to speak too highly of the invention of treating diseases of the urethra by means of the urethral guide and tubes. The same distinguished surgeon also remarked that "it is capable of rendering great service when the withdrawal of a sound or catheter cannot always be certainly followed by the re-introduction of another, and which withdrawal it renders unnecessary until a larger one is introduced over it—a very great improvement, which no surgeon should neglect; for when this can be done, no other operation is immediately necessary."†

Mr. Solly, surgeon to St. Thomas's Hospital, at a meeting of the Royal Medical and Chirurgical Society in April, 1853, whilst objecting to the use of the knife in the treatment of stricture, said that "he had found the plan of the urethral guide and tubes very useful in expediting the cure."

Mr. Coulson, in a lecture on the treatment of stricture of the urethra, delivered at St. Mary's

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* Brodie, Sir B. C, Lectures on Diseases of the Urinary Organs. Third Edition, pp. 48-9

† Guthrie, G. J., On the Successful Treatment of Stricture of the Urethra, &c., pp. 40-1.

Hospital in December, 1853, spoke of the instruments before you in strong terms of approval.*

Mr. Lizars, in the preface to the third edition of his work on "Stricture of the Urethra," states of the tubular instruments that "those who have witnessed their operation speak favourably of their beneficial effects. They appear to me," he says, "to be formed upon a very ingenious principle, and I have no doubt, if cautiously inserted, that they may prove a useful curative auxiliary." (p. xxiv.)

Quotations of a similar character might be multiplied, but probably enough have been cited to prove to this Society that the method of treating the strictured urethra, by means of the instruments now recommended, is worthy of their earnest consideration. I may also observe that the late Mr. Guthrie, who several times witnessed their action at the hospital with which I am connected, frequently remarked to me, that the objection to their use arose from the great power which they placed at the disposal of the surgeon, and that "a surgeon could really do too much with them at one operation." When, however, it is considered to whose hands the employment of these instruments is to be confided, it cannot be believed that patients will suffer from an undue exercise of power, or that a want of caution will be shown by the operator.

The removal of the stricture may be effected, either rapidly or slowly, according to the intention of the operator. Sir Benjamin Brodie has most truthfully observed that "the temper of the urethra varies as much as the temper of the mind."† The surgeon must therefore exercise his discretion as to the rapidity with which the strictured part should be dilated. If the intention be to proceed slowly, the treatment may be conducted, after the first two or three operations, by means of a silver tube, which may be allowed to remain in for an hour or so. Flexible tubes, except at two or three of the earliest sittings, need not be employed in such cases as these. But if a rapid cure be decided upon, all the means at the disposal of the operator must be employed with promptitude, caution, and watchfulness, in order to effect a safe and speedy termination of the treatment. It may be observed that strictures of many years' standing have been removed with remarkable promptitude by the tubular system of treatment.

Before using the instruments, two or three days should be occupied in preparing the patient for operation. Opportunity should be also taken of examining the urine, and obtaining a clear history of the malady. By examining the urine, of course an elaborate quantitative or qualitative analysis is not meant; but the specific gravity of the urine should be ascertained, its reaction determined, and it should be examined for vesical mucus or pus, and the products of calculi. It is necessary to be the more particular with respect to these preliminary measures in proportion to the severity or complications of the case. Cushions, made of Hooper's prepared india-rubber, containing hot water, should be applied to the region of the bladder above the pubes, and also against the perinæum. The urethra should be carefully examined with a guide suited to its calibre; and the necessity cannot be too strongly urged of carrying the point of the instrument along its anterior surface. With patience and perseverance, aided by the usual dexterity which a surgeon should possess, the instrument will be passed through the stricture. This step having been accomplished, the movable handle of the guide is to be withdrawn, the index-rod screwed on, and a corresponding silver tube passed upon the guide through the stricture. It will be observed that the guides are straighter than the catheters used by the late Mr. Liston, and they are made so as to allow the urethra to be straightened as much as possible, which is effected by making a fulcrum of the triangular ligament, the penis being brought rather lower than at a right angle to the body. By this mode of proceeding, the tubes are easily passed to the neck of the bladder. Having sufficiently expanded the stricture, the last used silver tube is withdrawn, and a flexible one is then passed over the guide, which should be immediately withdrawn through it.

This is commonly a very easy proceeding, and requires no further manipulation than a rotatory motion of the instrument, given to it by means of its flanges. The tubes, which are lined with flexible metal covered with elastic fabric, glide easily. The urine is then discharged, and the tube, at the discretion of the operator, is gently withdrawn to such an extent as to allow only a small portion of the point to project beyond the neck into the bladder. By retaining it in that position its point is prevented from irritating the mucous membrane of the bladder, and thus those rigors are prevented which are so distressing to the patient and alarming to the operator.

Many cases are on record where the point of the instrument, tied down against the walls of the bladder, has caused their ulceration and perforation. I remember being present at the post-mortem examination of a gentleman who was said to have died of stricture, but the inspection disclosed an ulcerated perforation of the bladder, just at the place where the point of a small silver catheter had rested. In that case the catheter had been tied in for three days. The gentleman was reported to have a stricture for thirty years, and a hard, gristly tumour was found, nearly encircling the urethra, which could be easily felt externally. Upon *slitting* open the urethra, the stricture was discovered to occupy its membranous and bulbous portions, where the instrument had been grasped by the contracted part. The mucous membrane there was more congested than elsewhere, and covered over by a thick muco-purulent matter. (The instrument that had been used was quite blackened from this part to its point.) The contracted portion had evidently been greatly widened by the long pressure of the catheter. Upon cutting out a portion of this gristly part of the urethra, the mucous lining was found to be thin, and strongly adherent to the subjacent structure, from which it could not be torn without bringing away some of the indurated tissue. When scraping it, a very minute quantity of the same kind of viscid matter came away upon the knife. Upon dissecting back the indurated part, it was found to merge into the structure around which it had formed; no defined border to it could be ascertained. The hardened structure was of a reddish-white colour and fibrous, and was deposited by the inflammation which had at some time or other been set up. A false passage existed, which left the urethra half an inch in front of the thickening, and passed between the urethra and the subjacent structures, entering the surrounding callosity.

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* In this lecture, published in THE LANCET, Mr. Coulson said:—"Mr. Thomas Wakley has invented several ingenious instruments, the utility of which has been demonstrated by very extensive practical application. They are intended to ensure entire command over the pervious urethra; and they present this additional novelty, that in their effects they combine two methods of treatment commonly employed—viz., rapid and permanent dilatation of the stricture." After describing the instruments, Mr. Coulson adds: "Those who are acquainted with the difficulties which often beset the surgeon during the treatment of stricture, must confess that the principle on which Mr. Wakley's instruments act is one of deep importance, and that great credit is due to him for the ingenious and perfect manner in which he has attained the desired object...... To dilatation it is objected, that the surgeon can never be sure of being able to re-introduce any instrument after it has been once withdrawn; but the disadvantage has been remedied by the excellent instruments of Mr. Thomas Wakley."

† Brodie, op. cit., p. 54.

This case appears to assist greatly in the solution of that most difficult problem,—How is it that the pressure of an instrument on the urethra relieves or opens a stricture? The rationale in the case of this man seems to be, that upon the introduction of the catheter the mucous lining of the urethra became inflamed, and secreted a muco-purulent matter; and that the pressure produced softening and absorption of the hard callus external to the mucous membrane. Although the pressure was exerted upon the hardening through the elastic mucous lining, the latter was neither absorbed nor ulcerated by this pressure, but only irritated and excited to the extent of secreting and discharging the muco-purulent matter. A similar action is manifested in the absorption of a tumour from pressure made upon it over and through the skin. My belief is, that in rapid dilatation the constant or frequent presence of an instrument induces absorption of the adventitious submucous formation producing the stricture, but that in slow dilatation the action is only a mechanical distension of the contracted canal, the interstitial structures losing in length what they gain in circumference, and soon again relapsing into their previous form.* Opportunities such as were afforded by this case—the man dying whilst actually under treatment—are very rare. A catheter had been kept in the bladder until a very short time before the death, for no symptoms were noticed by his surgeon, a very able practitioner, indicating the accident that had taken place. The patient evinced merely excessive prostration; he did not complain of pain until a few hours previous to his decease.

In resuming the subject of the *treatment*, I may state that the urine having been discharged, the external surface of the tube should be plugged, and the instrument secured with its point still only just projecting within the bladder, by means of tapes passed through its flanges and tied around a broad piece of india-rubber, which should encircle the penis. The knees of the patient should be raised and supported by pillows placed underneath them, and the india-rubber bags containing hot water used as before stated.

If the flexible tube be retained without exciting disturbance it may be removed at the expiration of twelve hours after the guide has been reintroduced through it; and then, the appropriate metallic tubes having been first passed over the guide, a larger flexible tube may be introduced and retained, as in the prior instance. By this mode of proceeding, in seven days a hard cartilaginous stricture has been so far dilated that a common No. 12 sound or catheter could be easily passed; but as a rule the safety of the patient would be best consulted by not endeavouring to obtain such a result in less than a fortnight, or from the commencement of the treatment, the more extended term allowing to the urethra a more protracted repose between the different operations. The strictly medical treatment accompanying these proceedings is too plainly indicated to require description.

In illustration of the action and utility of the tubular treatment of strictures of the urethra, I could furnish the Society with the details of numerous cases, including almost every variety and complication, but the time already occupied precludes me from doing more than reading abstracts from some interesting cases which have lately been under this system of treatment.

CASE 1.—A gentleman from the country, aged about forty-five years, married, but without children, was sent to me by his medical attendant. For many years past he had suffered from a most distressing stricture of the urethra. A small-sized instrument could occasionally be introduced into the bladder, but severe rigors, lasting for hours, generally supervened upon the manipulation. Latterly attacks of complete retention of urine had become frequent. Instrumental relief was impossible; and the general local and medical treatment on each occasion became less efficacious. The urine only dribbled away, accompanied by a constant desire to micturate, the discharge of it never satisfying the desire of the patient, or giving him a sense of relief, so large a quantity continually remaining in the bladder, after all the efforts made for its expulsion. Indeed the capacity of the bladder, from its incessant distension, had become enormous.

When first seen by me, this patient presented the appearance usually indicated after the long continuance of a wearing and fatiguing disease. On examination, I found the perinæum swollen and indurated, and the prostate painful to the touch. Upon the introduction of a small common catheter, I could do little more than discover a hard stricture, existing in all probability throughout the length of the indurated tumour. Believing, from the contents of the note which this gentleman brought to me from his surgeon, that I had to contend with a very severe and intractable case, I advised that he should take up his abode at the Sanatorium. The progress of his case was carefully and minutely narrated by Mr. T. Gill, the resident medical officer.

After the preliminary treatment, the patient was placed in bed, and the small-sized guide was, after very considerable trouble and difficulty, passed into the bladder. The handle of the guide was screwed in, and a No. 4 silver tube was carefully passed over it, through the strictured portion of the urethra, into the bladder, and then an elastic tube No. 4. The guide was then withdrawn. The tube was drawn out to the prostatic portion of the urethra. During the examination, I had discovered the urethra, anterior to the stricture, to be somewhat more contracted than natural; and there was a false passage to the right side, into which the point of the instrument always slipped, unless held well towards the other side. The contraction extended along at least two inches of the urethra. The patient was greatly fatigued; but was comforted by hot cushions placed over the bladder and the perinæum. The tube was kept in for several hours.

On the following day the small guide was passed. The point again hitched at the commencement of the false passage, but it was safely introduced into the bladder. The urethra was, however, tender throughout. The handle of the guide was screwed on, and a No. 6 silver tube was glided on the guide through the stricture by a rotatory motion, conducted by means of the flanges of the tube. A No. 6 elastic tube was then passed into the bladder, and the guide was withdrawn through it. The bladder was washed out with a very weak solution of dilute nitric acid. The peg was inserted and the tube withdrawn just to the opening of the bladder, and fixed there. To remain in for twelve hours.

In short, in fourteen days, this distressing case proved perfectly amenable to treatment with the urethral guide and tubes, the instruments being employed, as already detailed, upon alternate days, and the flexible tubes being retained in the stricture so long as was consistent with the condition of the patient.

Case 2.—In proof of what may be effected, even when a stricture of the urethra is accompanied by the most serious complications, I will cite an instance in which I was consulted by a London practitioner, where a stricture of very long standing was successfully treated, although complicated with a false passage, urinary fistulæ, extensive disease of the bladder, and a vesical calculus. The gentleman was well known to many surgeons, under whose care, at different times, he had placed himself, but never, by the adoption of any plan of treatment, had so large an instrument been passed, followed by an ability to expel so copious a stream of urine, as when the urethral guide and tubes were employed. The urine, when voided, smelt strongly ammoniacal, and after standing a short time deposited an immense sediment, consisting of mucus and pus. The patient was reported to suffer from long-continued rigors after any attempt to pass an instrument, and he told me that *a difficulty*, experienced even in the hands of eminent surgeons, had been the impossibility of introducing a larger instrument into the bladder, even when a small-sized bougie had been passed into it with comparative ease. Under the use of the tubes, in less than three weeks, a complete command of the urethra was obtained, without the occurrence of rigors, or any other symptom arising to delay the proceedings. At the expiration of that period, a common No. 12 sound could be introduced. The perineal fistula had quite healed. I lay claim to no manual dexterity as contributing to this fortunate result: the guide and tubes, in other hands, would doubtless have proved equally efficacious.

Case 3.—A gentleman, forty-one years of age, first complained of stricture eighteen years since, but it was not then so severe as to induce him to procure surgical aid. Twelve years ago, the late Dr. Lynch, of Farringdon-street, first introduced instruments into this patient's urethra. Two years afterwards he suffered greatly from stricture; and afterwards he went to Australia, where, he said, a false passage was made. He returned to England, and consulted a medical practitioner; but his condition progressively became worse, and at length a No. 1 catheter could not be passed. By the advice of his medical attendant, he now placed himself under my care, and he was recommended to take up his temporary residence at the Sanatorium. On examination, the seat of the stricture proved to be about the membranous portion of the urethra. A No. 1 guide was, after considerable manipulation, introduced. The subsequent treatment was pursued rather more slowly in this case in consequence of the extreme emaciation and debility of the patient. He left the Sanatorium, not only relieved as regards the stricture, but much improved in general health, in three weeks from the day of his arrival.

Finally, the advantages which experience justifies me in stating are obtainable from the employment of the new instrument may be thus enumerated:—

The rapidity,

The safety, and

The certainty of the removal of strictures of the urethra.

The permanency of the relief arising from the *absorption* of the submucous deposit.

The certainty of the tubes not making or extending any false passage.

The complete control over the urinary canal after the first introduction of the guide.

The relief afforded, often almost without pain.

The obliteration of false passages and fistulæ.

The freedom of the urinal flow after the first introduction of the guide.

The facility afforded for washing out or clearing the bladder at any period of the treatment.

The accomplishment of immediate and lasting relief without producing any breach of substance by means of caustics, or the employment of any cutting instruments.

Non-malignant strictures of the rectum and the œsophagus may be treated effectually with instruments constructed upon the same principles with those employed for the dilatation of contractions of the urethra. This assertion could be illustrated by the histories of several very interesting cases, fully justifying its truth. I must, however, defer the details of these cases, and content myself, for the present, with merely describing and exhibiting the instruments in question, and leaving the subject for the consideration of the Society.

The rectum instruments consist of a flexible guide of soft metal or elastic gum-fabric, and four dilating-tubes, composed of the same materials, ten inches in length, shaped at the discretion of the surgeon, and of different sizes, numbered 2, 4, 6, and 8, corresponding to those sizes on the gauge for common rectum bougies. One end of the tube is made upon the same principles as those employed in the construction of those for the urethra, whilst the other end terminates in a broad, everted, cup-shaped rim.

By the means of a long flexible guide, an O'Beirne's tube of a much larger size can be also used. The one on the table is a full quarter of an inch in diameter internally. It is believed that this will prove of great service when the treatment by means of O'Beirne's tube is indicated.

The œsophageal instruments consist of a long flexible guide, and dilating-tubes of elastic gum, twenty inches in length, of different sizes, and manufactured so as to glide over the guide with the same ease as the urethral instruments. I may here advert to the fact of Mr. Erichsen, in his work entitled "Surgery," having mentioned a case of œsophageal stricture, in which he used, with considerable advantage, instruments of a similar construction to the urethral tubes.

The instruments for the dilatation of the cervix uteri consist of a guide, eleven inches in length, with a movable handle, to facilitate its introduction, and of silver and flexible dilating-tubes which glide over the guide in the same manner as those for the urethra, and are made of various sizes, corresponding, in some respects, with those of Professor Simpson, but very considerably lighter. These tubes, at their internal extremity, have the same formation as those for the urethra. The other end is furnished with an inverted, cup-shaped rim, intended to fit the os uteri.

CONTRIBUTIONS TO THE PHYSIOLOGY, PATHOLOGY, AND TREATMENT OF SPERMATORRHŒA.

By Marris Wilson, M.D.

(Continued from January No.)

PART IV.

In proportion as the subject of our inquiry becomes more remote from the principal organs of generation, its peculiar influence, as an accessory to their functions, also diminishes in importance. Thus, on arriving at the urethra, we find an apparatus specially appropriated to the purposes of one of the great means of excretion, also made subservient to the intermitting necessities of the generative system. This fact of itself is a sufficient inducement to believe, that the urethra probably contributes in no way towards the increase or activity of the seminal fluid, but merely to its conveyance; and, that though the generative function requires a mode of exit, it does not demand one solely devoted to this particular purpose.

The compound seminal fluid, as retained within the testicles, the vesiculæ seminales, and the ejaculatory ducts, although fully formed and ready for expulsion, must not be considered as an excretion in the sense *effete*, because it may be re-absorbed into the system, and again become a part of the original organism. When, however, the secretion has passed the mouths of the ejaculatory ducts, these relations are altogether changed; for though it still has a purpose to perform, that purpose is quite independent of the source of the secretion; and, since the term effete is for this reason perfectly applicable, with respect to the functional power of the organs and ducts in which it was previously retained, still it bears a relationship to them, very different from that which its mucus has, to the membrane of the urethra; the mucus of the urethra has, in fact, no end to accomplish away from the organ of its secretion.

The urethra supplies a certain amount of mucus by its natural secreting powers, that may serve the purpose which has hitherto been supposed specially performed by the vesiculæ seminales—namely, to increase the lubricity of the urethral canal, and thereby to facilitate the passage of the semen. But that secretion is, by no means, even mainly supplied for this end, its chief intention being the defence of the delicate mucous lining of the urethra against the irritating influence of the urine.

The usual condition of the canal, however, fits it for the secondary office with only a slight preparation, and this is obtained by the additional amount of action directed to it by the excitation of the neighbouring structures.

To accomplish the most extended introduction of the seminal secretion, another excited action is superadded, namely, erection of the penis. This phenomenon may depend on several causes, some of them indeed quite independent of sexual excitement. The almost immediate effect, however, of the engorgement with blood, of the vessels and tissues surrounding the urethra, is an increase in the amount of secreted mucus, and the canal thus becomes fully prepared for the duty it has to perform, to cease when that duty has been completed. The facility with which this excited action ceases may afford an explanation of the reason why diseases of the urethral mucous membrane, deriving their origin directly from excitement of the generative organs, are by no means frequent. But diseased conditions, causing great irritation, and attended with considerable secretion, may occur in the urethra, either as the results of excitement derived from the more special generative apparatus, or they may arise from external causes, and thence propagate their influence inwards towards the different portions of that system.

To the former of these classes alone I apply the term *spermatorrhœa sthenica urethræ.* When irritation has existed for some time in the generative organs, the excitement becomes gradually extended to the urethra; the consequence of which is the establishment of a discharge from its mucous membrane, more or less abundant. In the commencement of an attack, and whilst the urethral membrane retains its sensibility, the symptoms are generally those of acute inflammation, or *urethritis*, accompanied by an excessive mucous secretion. But as the disease progresses, the stages of excitement gradually subside, and the asthenic condition supervenes. The character of the secretion varies, according to the amount of irritation, from a transparent mucus to the greenish-yellow appearance of pus, in the latter instance assuming a very close resemblance to the discharge of gonorrhæa. So close, indeed, is this resemblance, and so alike are the attendant symptoms, that on the history of the case alone can we rely for a distinction between the causes of the malady. From the facility and rapidity with which inflammation is conveyed along mucous membranes, the attack becomes very soon complicated with disease of the bladder; and then not without some difficulty shall we be able to ascertain what portion of the symptoms is due to the generative excitement, and how much to the reaction of the vesical disease. An exact diagnosis on this point is very necessary, since the urethritis attending spermatorrhœa is very apt to recur again and again, unless the special exciting cause is relieved; while that from other causes usually yields easily enough to a strict antiphlogistic plan of treatment. Urethral spermatorrhœa, therefore, after a short duration, will be accompanied with irritability of the bladder and with a frequent desire to evacuate its contents. This symptom, after a little time, becomes exceedingly troublesome, and adds very considerably to the sufferings of the patient. There will be also heat and irritation in the urethra, so that the passage of urine will cause much pain, and this is greatly increased as the last few drops flow away. The constitutional effects are by no means proportioned to the mere amount of excitation in the affected part; in fact, it would appear that an inverse relation to each other exists, so that in proportion as the more central organs are affected, constitutional derangement prevails, while in the more distant local effects mainly predominate.

The *treatment* should in every instance be regulated in such a manner as to include attention to the origin of the attack. Beyond what is necessary for the relief of the special exciting cause, we must depend on the antiphlogistic method, ordinarily employed in the management of urethritis, reducing inflammation by leeches applied along the course of the urethra, by fomenting with warm decoctions, such as poppy-heads, and poultices of bran, &c. A temporary relief, though a grateful one when the heat and inflammation run very high, is obtained by the application of a lotion composed of spirit of wine and acetic solution of lead. When the most active symptoms of inflammation begin to subside, much benefit is often experienced from the administration of copaiba, cubebs, camphor, &c.; but it cannot be too often repeated, that in arranging a system of treatment, any course directed to relieving the urethral disease is only applicable as a palliative, and that the cure will properly depend upon the influence exercised by the treatment on the generative cause of the disease.

After the subsidence of the active symptoms, the asthenic form, or *spermatorrhœa asthenica urethræ*, presents itself. In this modification of the disease, we have the results of diminished power, sinking gradually downwards to disintegration of the mucous membrane, and terminating in ulceration of its surface. Accompanying this last stage of the disease, there is a purulent discharge, differing from that of the former disease by those characters which mark a distinction between the two secretions under other circumstances—that is to say, in the former, the glairy portion is most abundant, while, in the latter, the granules predominate.

The *treatment* of a condition such as this should be directed so as to restore power, and supply, as far as possible, the wasting nutrition. The most appropriate mode of obtaining the former of these intentions will be by means of tonic medicines, such as steel, quinine, mineral acids, cinchona bark, gentian, calumba, camomile, cascarilla bark, &c., in about the order I have placed them as to efficacy. In the latter, we must employ a stimulating diet, as full as the stomach will bear, added to which, cod-liver oil should be administered, or the more useful and convenient compound of cod-liver oil chocolate. By means of the latter preparation, I have found it possible to sustain wasting strength, in all the forms of this disease, far better than by almost any other article of diet, and when the pure oil would be rejected from its nauseousness.

For the purposes of classification, I have been compelled to investigate separately the diseased conditions of the respective portions of the genital apparatus; but it will be hardly necessary to observe that the intimate dependence of the organs upon each other, renders it almost impossible to find such a state of complete isolation in practice. It usually happens that two or three of the organs are involved in disease at the same time, so that it becomes no easy matter to separate the distinctive symptoms from the general mass, and refer them to the particular source of their origin.

I hope to be excused in devoting a few lines to a recapitulation of the physiological views on which I have grounded the system of classification, which has appeared to me fairly derivable from the pathological phenomena of spermatorrhœa, and the Table of which I have presented in my first paper on this subject. I should not, perhaps, consider myself justified in calling particular attention to this recapitulation, were it not that some of the views put forward are observations made in a close study of the phenomena of the disease, sustained by careful dissections; but though in accordance with generally known results, are in detail as yet altogether new to the inquiries and recorded observations of physiologists.

The separate parts of the generative apparatus have each a peculiar functional capability, isochronous in their action during health, but qualified to exert an exaggerated and independent power under certain conditions of disease. The fecundating fluid secreted in the testicle, and resulting from a great expenditure of nervous power, acts by its intensity, its efficacy being also increased by the presence and vital activity of the spermatozoa accompanying it.

The characteristic mucus of the vesiculæ seminales, on the contrary, is secreted in abundance, without any great consumption of nervous energy, and therefore its excretion does not occasion such very serious constitutional effects as the former fluid, even when in great excess. It also accomplishes its purpose in a manner precisely opposite to that of the former secretion, being merely intended to supply sufficient bulk to the fertilizing fluid, and afford an appropriate medium for preserving the vitality of the spermatozoa.

The prostate gland furnishes an alkaline secretion, in perfect accordance with the chemical characters of the seminal mass, by which the variations in condition, arising from natural causes in the passages through which it has to pass, are corrected, and which would otherwise prove destructive to the fecundating quality.

The urethra supplies the means of lubricity by providing a mucus which efficiently facilitates the progress of the seminal fluid, through a course which, as the means of exit to a more frequently exercised excretion, is, on that account, liable to changes, such as would seriously impair the vital function of fecundation.

In closing this the first division of my subject, I may remark that in the foregoing papers I have endeavoured to demonstrate the perfect consonance of the opinions I entertain, with the principles of physiology and pathology. The new views promulgated will, I doubt not, hereafter receive further confirmation; and thus by directing inquiry to the mysterious agencies which have hitherto surrounded this most terrible moral and physical disease, much will have been accomplished, both for the science of medicine and for the benefit of the unfortunate victims of spermatorrhœa.

Very shortly I intend to publish some cases, illustrating, as far as the complications of the malady will permit, the several classes of the disease, which, in the course of my practice, have appeared so evident and conclusive.

Upper Charlotte-street, Fitzroy-square, 1857.

PRACTICAL DEDUCTIONS FROM A CLINICAL RECORD OF TWENTY-SIX CASES OF STRANGULATED FEMORAL HERNIA.

By John Birkett, Esq., F.R.C.S.
SURGEON TO GUY'S HOSPITAL.

PART I.

The mortality attending strangulated femoral hernia induced me to examine those cases which had fallen under my especial treatment, in the hope, that by a careful examination of the facts exhibited in each instance, and in comparison with one another, some practical deductions might be elicited which would guide us to a more successful treatment of this disease—deductions which would bring prominently into the foreground—1stly, The causes of death; 2ndly, The circumstances by which these causes are brought about; and, 3rdly, The means by which they may be avoided.

The total number of cases amounts to twenty-six, and these are *not selected cases*, but they are arranged on Table I. in the order in which they came under my observation and treatment.

The heading of each column on the table is so arranged as to indicate the particular circumstances attending each individual case.

Some of those circumstances which may be termed "unfavourable," are indicated by the usual typographical note of exclamation.

1. Under the term "unfavourable" I include the distance travelled to the hospital, whilst a sufferer with strangulated hernia.

2. The constitutional nutrition of each individual is noted as being important in influencing the recovery, as much from the effects of the disease as from those of any operation.

3. The constitutional condition of the patient when first brought under observation. It will appear that in several of the cases the prostration of the system was so great as to preclude almost all hope of recovery, even after liberation of the strangulated bowel was accomplished; but, in these cases, we must seek for the cause of such fatal prostration.

4. The size of the tumour is said to have considerable influence in the production of a morbid condition of the protruded viscus, as well as on the severity of the constitutional symptoms. Three conditions, as regards size, have therefore been noted under the terms "small," "medium," and "large."

5. The columns 6, 7, 8, 9, refer to the attempts made to reduce the hernia by those means included under the term "taxis." These means consist in the exhibition of purgatives, enemata, immersion in a hot or warm bath, and the attempts to return the protruded viscus into the abdomen by manipulation.

6. The morbid states of the alimentary canal exercise a most pernicious influence upon the recovery of the patient, especially that portion above the coil or knuckle of intestine in the hernial sac,

TABLE I.

Cases of Strangulated Femoral Hernia, arranged in the Order in which they came under Observation.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.
CASE.	Age.	Distance travelled.	Constitutional Nutrition.	Constitutional Symptoms.	Size of Tumour.	Taxis.	Purgatives.	Enemata.	Warm Bath.	Peritonitis at operation.	Sac opened.	Neck of Sac incised.	Duration of Constriction.	Period of Suffering.	Condition of Bowel.	Convalescent.	Total of unfavourable circumstances.	Survived Operation.	RESULT.
I.	36	...	..	/	Small /	..	..	..	..	..	No	...	40½ hrs.	42½ hrs.	......	In 24 hrs.	2	....	Cured.
II.	34	/ 7 m.	..	/	Medium	/	/	/	/	/	No	...	71 hrs.	75 hrs.	......	....	7	236 hrs.	Death.
III.	43	...	..	/	Medium	/	..	/	/	..	No	...	12 hrs.	14 hrs.	......	....	4	195 hrs.	Death.
IV.	41	...	/	/	Small /	/	..	..	..	/	Yes	Yes	51 hrs.	52 hrs.	Congested	....	5	194 hrs.	Death.
V.	66	...	..	..	Large	..	..	..	..	..	Yes	No	42 hrs	47 hrs.	Congested	7th day	.	....	Cured.
VI.	38	/ 4 m.	..	..	Medium	..	..	..	/	..	Yes	Yes	3 hrs.	12 hrs.	Congested	9th day	2	....	Cured.
VII.	45	...	..	/	Large	..	..	..	/	..	No	...	29½ hrs.	30½ hrs.	......	6th day	2	....	Cured.
VIII.	51	/ 4 m.	..	/	Large	/	..	..	/	..	Yes	Yes	79 hrs.	80 hrs.	Congested	....	4	40 hrs.	Death.
IX.	64	...	/	/	Medium	..	..	..	/	..	Yes	Yes	18 hrs.	20 hrs.	Congested	4th day	3	....	Cured.
X.	49	...	/	/	Small /	/	..	..	..	/	Yes	Yes	51 hrs.	51 hrs.	......	....	5	45 hrs.	Death.
XI.	78	...	..	..	Medium	..	..	..	/	..	No	...	29 hrs.	30 hrs	......	8th day	1	....	Cured.
XII.	75	...	/	/	Small /	..	..	..	..	/	No	...	74 hrs.	78 hrs.	......	....	4	72 hrs.	Death.
XIII.	72	...	..	/	Small /	..	..	..	..	..	No	...	60 hrs.	72 hrs.	......	3rd day	2	....	Cured.
XIV.	50	...	/	/	Large	/	..	..	/	..	No	...	32 hrs.	41 hrs.	......	10th day	4	....	Cured.
XV.	66	...	/	/	Large	..	..	..	..	..	No	...	18 hrs.	19 hrs.	......	7th day	2	....	Cured.
XVI.	78	/ 3 m.	/	/	Large	..	..	..	..	..	No	...	15 hrs.	16 hrs.	......	....	3	96 hrs.	Death.
XVII.	34	/ 4 m.	..	/	Small /	..	..	..	..	..	Yes	Yes	36 hrs.	38 hrs.	Congested	10th day	3	....	Cured.
XVIII.	62	/23 m.	..	/	Large	..	..	..	..	..	No	...	26 hrs.	28 hrs.	......	....	2	70 hrs.	Death.
XIX.	64	/31 m.	/	/	Large	/	..	..	/	..	Yes	Yes	31 hrs.	35 hrs.	Inflamed	....	5	52 hrs.	Death.
XX.	67	...	/	/	Medium	/	..	..	/	..	Yes	Yes	55 hrs.	56 hrs.	Inflamed	....	4	25 days	Death.
XXI.	57	...	/	/	Large	/	/	..	..	..	Yes	No	57 hrs.	60 hrs.	Inflamed	....	4	13 days	Death.
XXII.	57	/ 2 m.	/	/	Small /	..	/	..	/	..	No	...	78 hrs.	81 hrs.	......	....	6	40 hrs.	Death.
XXIII.	70	/ 2 m.	/	..	Large	/	..	..	/	..	Yes	Yes	11 hrs.	12 hrs.	Congested	....	4	51 hrs.	Death.
XXIV.	40	...	/	/	Medium	/	/	..	..	..	No	...	12 hrs.	24 hrs.	......	7th day	4	....	Cured.
XXV.	52	...	/	..	Medium	/	/	/	/	..	Yes	Yes	77 hrs.	101 hrs.	Inflamed	7th day	5	....	Cured.
XXVI.	45	...	/	/	Small /	..	/	..	..	..	No	...	44 hrs.	71 hrs.	......	6th day	4	....	Cured.

TABLE II.

Cases of Strangulated Femoral Hernia, arranged in the Order of the Sum of the Unfavourable Circumstances in each Case.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.
CASE.	Age.	Distance travelled.	Constitutional Nutrition.	Constitutional Symptoms.	Size of Tumour.	Taxis.	Purgatives.	Enemata.	Warm Bath.	Peritonitis at operation.	Sac opened.	Neck of Sac incised.	Duration of Constriction.	Period of Suffering.	Condition of Bowel.	Convalescent	Total of unfavourable circumstances.	Survived Operation.	RESULT.
V.	66	...	..	..	Large	..	..	..	..	..	Yes	No	42 hrs.	47 hrs.	Congested	7th day	.	....	Cured.
XI.	78	...	..	..	Medium	..	..	..	/	..	No	...	29 hrs.	30 hrs.	......	8th day	1	....	Cured.
I.	36	...	..	/	Small /	..	..	..	..	..	No	...	40 hrs.	42 hrs.	......	24 hrs.	2	....	Cured.
VI.	38	/ 4 m.	..	..	Medium	..	..	..	/	..	Yes	Yes	3 hrs.	12 hrs.	Congested	9th day	2	....	Cured.
VII.	45	...	..	/	Large	..	..	..	/	..	No	...	29 hrs.	30 hrs.	......	6th day	2	....	Cured.
XV.	66	...	/	/	Large	..	..	..	..	..	No	...	18 hrs.	19 hrs.	......	7th day	2	....	Cured.
XIII.	72	...	..	/	Small /	..	..	..	..	..	No	...	60 hrs.	72 hrs.	......	3rd day	2	....	Cured.
XVIII.	62	/23 m.	..	/	Large	..	..	..	..	..	No	...	26 hrs.	28 hrs.	......	....	2	70 hrs.	Death.
XVII.	34	/ 4 m.	..	/	Small /	..	..	..	..	..	Yes	Yes	36 hrs.	38 hrs.	Congested	10th day	3	....	Cured.
IX.	64	...	/	/	Medium	..	..	..	/	..	Yes	Yes	18 hrs.	20 hrs.	Congested	4th day	3	....	Cured.
XVI.	78	/ 3 m.	/	/	Large	..	..	..	..	..	No	...	15 hrs.	16 hrs.	......	....	3	96 hrs.	Death.
XXIV.	40	...	/	/	Medium	/	/	..	..	..	No	...	12 hrs.	24 hrs.	......	7th day	4	....	Cured.
XXVI.	45	...	/	/	Small /	..	/	..	..	..	No	...	44 hrs.	71 hrs.	......	6th day	4	....	Cured.
XIV.	50	...	/	/	Large	/	..	..	/	..	No	...	32 hrs.	41 hrs.	......	10th day	4	....	Cured.
III.	43	...	..	/	Medium	/	..	/	/	..	No	...	12 hrs.	14 hrs.	......	....	4	195 hrs.	Death.
VIII.	51	/ 4 m.	..	/	Large	/	..	..	/	..	Yes	Yes	79 hrs.	80 hrs.	Congested	....	4	40 hrs.	Death.
XXI.	57	...	/	/	Large	/	/	..	..	..	Yes	No	57 hrs.	60 hrs.	Inflamed	....	4	13 days	Death.
XX.	67	...	/	/	Medium	/	..	..	/	..	Yes	Yes	55 hrs.	56 hrs.	Inflamed	....	4	25 days	Death.
XXIII.	70	/ 2 m.	/	..	Large	/	..	..	/	..	Yes	Yes	11 hrs.	12 hrs.	Congested	....	4	51 hrs.	Death.
XII.	75	...	/	/	Small /	..	..	..	..	/	No	...	74 hrs.	78 hrs.	......	....	4	72 hrs.	Death.
XXV.	52	...	/	..	Medium	/	/	/	/	..	Yes	Yes	77 hrs.	101 hrs.	Inflamed	7th day	5	....	Cured.
IV.	41	...	/	/	Small /	/	..	..	..	/	Yes	Yes	51 hrs.	52 hrs.	Congested	....	5	194 hrs.	Death.
XI.	49	...	/	/	Small /	/	..	..	..	/	Yes	Yes	51 hrs.	51 hrs.	......	....	5	45 hrs.	Death.
XIX.	64	/31 m.	/	/	Large	/	..	..	/	..	Yes	Yes	31 hrs.	35 hrs.	Inflamed	....	5	52 hrs.	Death.
XXII.	57	/ 2 m.	/	/	Small /	..	/	..	/	..	No	...	78 hrs.	81 hrs.	......	....	6	40 hrs.	Death.
II.	34	/ 7 m.	..	/	Medium	/	/	/	/	/	No	...	71 hrs.	75 hrs.	......	....	7	236 hrs.	Death.

as well as of the peritoneal serous membrane, both visceral and parietal. I have, therefore, noted the condition of the abdomen previous to the operation, when evidence of disease therein existed.

7. The columns 11 and 12 relate to the peritoneal hernial sac, and especially to incisions of this structure, either of its anterior surface or of its neck.

8. When a portion of intestine has been subject to the constriction produced by an unyielding band encircling it for many hours, we should, *à priori*, suppose that the greatest amount of injury of that intestine would be found in those cases in which the constriction had existed the longest period of time. This I shall demonstrate is not the case, practically, and it is for us to inquire why in those cases in which the natural constriction has existed the shortest time the damage inflicted on the protruded bowel has been the greatest?

9. An individual the subject of strangulated hernia has to endure many of those conditions which produce the greatest amount of prostration of the nervous energies, and it is therefore required in this investigation to compare the whole period of suffering with other concomitant circumstances. The whole period of suffering is stated in column 14.

10. The morbid appearance of the bowel as revealed during the operation, in relation to the mischief inflicted upon it, either by the natural constriction of the ring or the forcible attempts to replace it in the abdomen, is of great practical importance at the moment of operation as well as subsequently, in reference to the success of the case. In column 15, the different states of "congestion" and "inflammation" are noted in those cases in which, after the opening of the peritoneal sac, the state of the bowel could be examined.

11. Convalescence after so severe a disease and the operation required for its relief must necessarily occur at most varied periods; but it is interesting to inquire the cause of the rapid recovery in one case, and of so protracted a convalescence in another. Especially, moreover, whether there be any relation, as regards a speedy or protracted convalescence, between those cases in which the peritoneal sac is not incised and those in which it is.

12. The figures in the 17th column indicate the sum of the "unfavourable circumstances" in each case, which is found by noting the number of marks of exclamation in each column, excluding those in the column headed "Size of Tumour."

13. The columns 18 and 19 contain the result of the case, and the number of hours each patient survived the operation.

14. In Table II. the cases are arranged in the numerical order of the figures found in column 17 of Table I.; and when the same figure occurs repeatedly, the cases *cured* are placed first in the order of their respective ages, and the *fatal* cases last in the same order.

15. A glance at Table II. demonstrates that those cases proved fatal which had the greatest number of "unfavourable circumstances" attending them as indicated by the higher figures. This we should expect; and it is for us to inquire what the circumstances were which induced a fatal result.

16. The first fatal case is on the eighth line (Case XVIII.), and there were only two unfavourable marks attached to it. The periods of constriction of the bowel and of suffering were also short, and the tumour is described as large. This patient was sixty-two years old; she had travelled to the hospital, in a carriage, twenty-three miles; and the prostration of her powers was very severe when she underwent the operation. This patient did not rally, and death ensued in 70 hours. The bowel was reduced without opening the sac. The necropsy revealed the recovering condition of the bowel.

The fatal result in this case is attributable to the prostration induced by the long journey as well as to her acute sufferings.

17. The next fatal case, on the 11th line (Case XVI.), has only three unfavourable circumstances; but the patient was seventy-three years old; she travelled three miles to the hospital; her constitutional nutrition was very defective, and the constitutional symptoms were very severe. The constriction of the bowel had only existed fifteen hours when the hernia was reduced, without opening the sac. Convalescence was proceeding favourably, when the patient was attacked with acute bronchitis, to which disease she succumbed, having survived the operation 96 hours. A post-mortem examination of the abdomen showed that the bowel was undergoing most favourable repair.

18. All the cases on the twelve lower lines, with the exception of one (Case XXV.), terminated fatally, and the total unfavourable circumstances are 4, 5, 6, and 7, respectively. We shall now find that to the effects of manual violence employed in the attempts to reduce the hernia are to be attributed, in several cases, the fatal results.

19. Thus, Case III., occurring in a healthy woman, forty-three years of age, and in whom the bowel was released by operation, without opening the sac, after only twelve hours' constriction, proved fatal, having survived the operation 195 hours. A post-mortem examination showed peritonitis, great injury inflicted upon the intestine, and a subcutaneous abscess extending from the wound widely into the neighbouring regions.

20. Next, Case VIII., a female, aged fifty-one, who performed a journey of four miles with a strangulated femoral hernia of 78 hours' duration. The constitutional depression was severe; taxis had been energetically employed, she had been placed in a warm bath, and the sac and its neck were incised. The bowel was deeply congested, and it was returned into the abdomen. She survived the operation forty hours, but never rallied from the state of collapse into which she had fallen before admission. Acute peritonitis was seen after death, and the bowel was in a gangrenous condition.

21. In Case XXI., a woman aged fifty-seven, of no constitutional power, and who exhibited urgent symptoms when admitted, the taxis had been freely used and purgatives administered. The operation was performed when the bowel had been constricted 57 hours, and the sac was opened. The bowel was inflamed; it was returned just inside the abdominal cavity, without cutting the neck of the sac, and the primary effects of the constriction of the bowel were recovered from. The bowel sloughed, ulceration took place, and the contents of the small intestine were discharged through the wound. This patient survived the operation thirteen days, and the immediate cause of death was exhaustion.

22. In Case XX., a woman of feeble powers, very fat, and aged sixty-seven years, on whom the taxis had been employed, the constitutional symptoms were urgent. The sac was opened when the bowel had been constricted 55 hours, and it was necessary to incise its neck before the reduction of the hernia could be effected. The intestine was inflamed, and it was returned just inside the abdomen, and the patient survived the operation 25 days. In this case the bowel ulcerated, fæcal evacuations took place from the wound for several days before death, which resulted, as demonstrated at the post-mortem examination, from the formation of a very large abscess behind the peritoneum of the lumbo-sacral region.

23. A woman, aged 70 (Case XXIII.), whose nutrition was defective, and who travelled between two and three miles to the hospital, had the taxis vigorously performed, and was submitted to the operation only 11 hours after the first signs of strangulation manifested themselves, and 12 hours from the commencement of the attack. The sac and its neck were incised, and the bowel seemed to be merely congested. This woman survived the operation 51 hours, and at the necropsy acute peritonitis was seen; the bowel which had formed the hernia was gangrenous, and it showed how much injury might be inflicted upon it by force.

24. In Case XII., the patient, aged seventy-five, and very fat, did not seek medical aid until strangulation of the bowel had existed 72 hours. The tissues around the neck of the sack were divided, and the protrusion easily reduced. All the symptoms of strangulation immediately subsided, but the patient never rallied, and died 72 hours after the operation. She seemed to sink from prostration and the peritonitis ensuing upon long continued constriction of the bowel. A necropsy was refused.

25. In the next series of cases five unfavourable circumstances appear, and with the exception of one instance, which must be regarded as most exceptional in all its aspects, and which, therefore, demands especial notice, they all terminated in death.

26. Case IV. was that of a delicate, thin, badly-nourished woman, aged forty-one, with a small hernia, and urgent constitutional symptoms of strangulated intestine. The taxis had been freely used, and peritonitis existed when the operation for the relief of the bowel, which had been strangulated 51 hours, was performed. The peritoneal sac was incised in front, and at its neck, and the intestine, deeply congested, was returned into the abdomen. A considerable quantity of bright yellow serum escaped when the sac was opened. This patient survived the operation 194 hours. Dark, blood-stained evacuations passed from the bowels on the fourth day. After death, the alimentary canal was distended with fluids above the seat of injury, and deeply injected with blood. General peritonitis existed, but no inflammatory effusion. The piece of ileum which had been constricted 51 hours, and released 194 hours, or nearly eight days, was in the pelvis, of a pale slate colour. The effects of the constriction of the femoral ring were deeply marked upon it, and ulceration of the mucous membrane, corresponding to the site of the constriction, existed. Conclusive evidence here exists of the very slow reparation of the intestine, and, I believe, we may attribute the death in this instance to the morbid state of the alimentary canal—a condition well described by the term paralysis of the contractile fibres of that portion of the tube above the injured bowel. This morbid state is often found after death in cases of strangulated hernia, and it is associated with more or less injection of the sub-serous bloodvessels, and intense depression of the nervous system generally. Death in these cases seems to be the result of simple exhaustion.

26. Case X. was one of irrecoverable prostration when admitted into Guy's. A very fat, aged-looking woman, although but forty-nine years old, and who had been much worn by severe bodily exertion and mental distress for several months before, had been the subject of strangulation of the bowel 51 hours, when I returned the hernia, after having incised the sac in front and at its neck. She never rallied, but survived the operation 45 hours. A necropsy was refused.

28. Case XIX. illustrates the damage which may be inflicted by violent manipulation of a piece of bowel forming a hernia. A woman, sixty-four years old, travelled thirty miles to the hospital. Strangulation of the bowel had existed but 31 hours. Three attempts had been made in one day to return this rupture by two individuals, at 8 A.M., three P.M., and nine P.M. I opened the hernial sac; the intestine appeared purple and mottled, but it was bright and elastic. It contained omentum, mesentery, and blood-tinged serum also. The neck of the sac was incised, the ring being small, and the bowel was returned into the abdomen. All evidence of strangulated bowel vanished, but the patient only survived the operation 52 hours.

Necropsy.—Acute peritonitis; flakes of lymph and purulent effusion in the peritoneum. The piece of bowel which had been in the sac was gangrenous, but there was no perforation. Who will deny but that in this case the bowel had been irreparably injured by violent manipulation?

29. Six circumstances unfavourable to recovery occurred in Case XXII., as well as a most unusual

fact, which exerted, doubtless, some influence in regard to its unsuccessful result. The patient was fifty-seven years old, aged, cachectic, extremely emaciated, and afflicted with lateral curvature of the spine. The hernia was very small. The surgeon who sent her to the hospital had employed gentle taxis; but a chemist, to whom she first applied, gave her purgatives. The rupture had caused trouble 81 hours, and evidence of strangulation had existed 73 hours, when I reduced the intestine without opening the sac. She became more and more exhausted, survived the operation 40 hours, and never rallied from the state of collapse into which she had fallen when brought to the hospital.

Necropsy.—Great injection of the minute blood-vessels and accumulation of fluid in that portion of the alimentary canal above the injured bowel; the portion below was contracted, and merely lined with mucus. Large, hard, rocky scybalæ in the lower part of the ileum, close to the piece of injured bowel. A small knuckle of ileum which had been in the sac was perfectly recovered, but was a little more deeply injected than the rest. The scybalæ were lodged close to the piece of ileum which had formed the hernia, and thus produced obstruction.

30. The last of the whole series of fatal cases shows seven unfavourable circumstances. Case II.—The patient, a female, was young, only thirty-four; she travelled seven miles to the hospital. The constitutional symptoms were severe when admitted; manipulation of the tumour had not been improperly employed, purgatives had been taken, enemas injected, and the patient had been placed in a warm-bath. Peritonitis was developed at the time of the operation. Strangulation of the bowel had existed seventy-one hours when the bowel was reduced without opening the sac. The case progressed favourably for a few days, free evacuations from the bowels took place, the wound suppurated, and, although she was very low, I had great hopes she might recover. On the eighth day after the operation, she suddenly became collapsed and died. A necropsy was refused, but most probably the bowel had ulcerated at the seat of injury, allowing extravasation of its contents.

31. From this deplorable list of fatal cases we may now turn to one of those remarkable instances which occasionally occur in surgical practice, and which from their erratic course seem to set all conclusions or deductions at defiance.

32. A woman, Case XXV., aged fifty-two, excessively out of health, for she had been suffering with thecal abscess, and was the subject of phlegmon of the left arm, and whose poverty and misery prevented her from obtaining sufficient nourishment at any time, had been the subject of femoral hernia thirty-six hours when admitted to Guy's. Very characteristic symptoms of strangulation had existed twelve hours, and, before admission, a surgeon had manipulated the tumour with care, and its size was less than when he began. Before the surgeon saw her she took aperient pills. When I saw here, there was a small, painful tumour in the right groin; she looked careworn and miserable, all vomiting had ceased, the tongue was moist, the pulse full, and the abdomen soft and painless when touched. I concluded, from the statement of the surgeon, that the tumour was smaller than before the taxis, that intestine and omentum had been in the sac, that the intestine was reduced, and that the contents of the existing tumour were omentum, with perhaps serum.

She was placed in a warm bath, an enema was administered, which emptied the large intestine of much fæces, and ice was applied to the tumour. She took food, was free from pain and restlessness, and although looking anxious and worn, no marked indications of the existence of bowel in the sac showed themselves for about sixty-four hours. Vomiting now recommenced, and the tumour was rather larger and more elastic. I immediately opened the sac, and found intestine and serum only. The intestine was deeply congested, lymph adherent to it, and the serum was tinged with blood. The neck of the peritoneal sac was incised, and the bowel returned. Opium, stimuli, and support were administered, and this patient recovered slowly, without a bad symptom.

PART II.

General Summary of the Causes which produced a Fatal Result in the Cases before related.

33. Of this collection of 26 cases, one-half had a fatal termination. The cause of this fatality must be attributed, in most instances, to circumstances, over which the operating surgeon had no control whatever, and the operation was only undertaken with the view to place the patient in a condition more favourable to recovery.

34. The causes which induced a fatal result may be thus stated :—

35. (1.) The immediate consequences resulting from a journey performed by the patient whilst labouring under strangulated hernia, as in Case XVIII.; for all the circumstances in this case seemed favourable, and nothing but the effects produced by the journey could explain the extreme prostration of the patient. Similar observations may be made of Case XIX.; but to this one unfavourable circumstance others were superadded.

36. (2.) The constitutional nutrition of many of the patients was so very bad, that the success of any operation would be very doubtful. How much more, then, one performed upon a patient already in a state of extreme collapse, and exhausted by constant vomiting and other depressing influences? Cases X., XII., XX., XXI., XXII., XXIII., illustrate this fact.

37. (3.) The irrecoverable prostration of the nervous energies into which some patients fall who have been suffering with strangulated hernia many hours, before any surgical relief is afforded, Case

XII., or who are the subject of that collapse attendant upon the existence of peritonitis at the moment the operation is performed, Cases II., IV., X., XII.

38. (4.) But of all the most unfavourable circumstances to recovery are those morbid changes in the bowel induced by the violent manipulation of the hernial tumour, and which under the term of "*the application of the taxis*" must have caused the death of not less than five cases of the thirteen. The effects of this manipulation are illustrated by the drawings in the museum of Guy's Hospital, which depict a morbid state of the tissues of that portion of the bowel forming the hernia, totally different from the morbid condition of the same part produced by the constriction *alone* of the margins of the femoral ring, Cases III., XIX., XX., XXI., XXIII. In two of these cases the life of the sufferers was prolonged by the ulceration of the intestine taking place, and the discharge of the contents of the alimentary canal through the wound. Cases XX., XXI.

39. (5.) The exhibition of purgative medicines, either by the advice of a nurse, a friend, a chemist, or the medical attendant, has been one of the unfavourable circumstances in six of the total number of the cases. In three of these, death was the final result. Although the administration of purgatives, in diseases of this nature, can only be spoken of in terms of censure, yet I can scarcely believe they produce any very serious mischief; for the stomach scarcely ever retains anything sufficiently long to admit of medicines of this description producing their specific effect.

40. (6.) Whatever important morbid condition may be overlooked by not opening the peritoneal sac itself, or by incision of its neck—a risk the danger of which is over-rated by some surgical writers, even of to-day—I have no hesitation in giving my preference to a division of all those tissues external to the neck of the sac, in the first instance, and then to the opening of the sac itself, in those cases only in which the hernia cannot be reduced without doing so. The preference I bestow upon this mode of operation is entirely the result of the practical experience gained from the observation of a large number of cases. I have never seen one untoward result arise from this mode of performing the operation.

Of the cases arranged in Table II.:

The sac was not opened in . . .	14
It was opened in	12
	26

Of the cases cured:

The sac was not opened in . . .	8	
It was opened in	5	
		—13

Of the fatal cases:

The sac was not opened in . . .	6	
It was opened in	7	
		—13
		26

41. The causes which in these cases demanded the opening of the sac, may be referred to the following circumstances:—

1. The contents of the sac.

2. The morbid condition of the contents of the sac.

3. The dimensions of the neck of the sac, and the unyielding state of its tissues.

Other mechanical difficulties may arise, and are related by writers on this subject. I allude here to those circumstances only which I have myself encountered in practice.

42. (I.) The contents of the sac.

1. When a large coil of intestine occupies the sac, two breadths of the canal, with interposed mesentery, lie in the femoral ring. The tissues forming the boundary of this canal girt the protrusion very firmly, and thus prevent the expulsion of the contents of the protruded bowel from passing into the track of the alimentary tube. This emptying of the tube being, practically, an important preliminary to the reduction of the hernia, and a circumstance which generally precedes it.

43. (2.) The presence of a large piece of irreducible omentum, lying in the front of the bowel, practically interferes with that manipulation of this viscus necessary for its reduction. I do not here allude to the secondary omental sacs occasionally developed, but to the presence of omentum, and which is sometimes indurated and adherent to the neck of the sac. This condition is often caused by the long-continued pressure of a truss.

43. (3.) An unusually large effusion of serum has, in more than one case, interfered to prevent the reduction of the bowel, for this desirable end was only attained after the serum had escaped through an incision in the sac, and without any division of the neck of the hernial sac. Might not the neck of the sac have been narrowed, and its constricting power thus rendered more direct by the distended state of the sac itself? Or, perhaps, the fluid interfered to prevent that direct pressure on the bowel so necessary to effect its reduction.

44. (II.) The morbid condition of the contents of the sac.

1. After the lapse of some hours, and in cases upon which much manipular force has been expended, the intestine and the internal surface of the sac adhere; and the adhesions are sometimes so strong as to prevent the reduction of the hernia, unless the sac be opened. Adhesions to the neck of the sac *only* present a practical obstacle of a similar nature.

45. (2.) A morbid state of the protruded bowel, the result of violence inflicted upon its tissues, is another cause requiring incision of the sac. The tissues are infiltrated with blood and inflammatory effusion, and they are thereby rendered so unyielding that they cannot be passed through the small aperture of the femoral ring. This outlet, therefore, requires enlargement; and, to effect this, it is sometimes necessary to open the sac.

46. (3.) Great distension of the protruded bowel with fluids, and congestion of its tissues, offer obstacles to its reduction; and in these cases the

sac must be opened, for the small size of the neck of the sac is the barrier to the emptying of the intestine.

47. (III.) The dimensions of the neck of the sac and the unyielding state of its tissues.

In the operations on all these cases, the tissues external to the neck of the sac, and especially those upon its anterior and internal relations, were freely divided; but, in some instances, the hernia could not be reduced without cutting the neck of the peritoneal sac itself. We are therefore justified in the conclusion, that to the condition of this structure the difficulty experienced in the reduction of the hernia should be attributed. A narrow and indurated state of the neck of the sac, in more than one case, formed this barrier, and after its division the reduction of the hernia was accomplished.

48. (7.) The term "convalescence" is one of somewhat arbitrary signification, and when instituting an inquiry into the comparative period of time occupied in the convalescence of one class of cases with another, it is difficult to assign a date with which, perhaps, two surgeons might exactly agree. From the Tables, however, we are justified, I *think*, in forming the conclusion, that in those cases in which the hernia was returned without opening the sac, the restoration to a safe condition, which may be considered as convalescence, was within the shortest period.

Eight cases in which the sac was not opened:

Convalescent in . . . 24 hours.
" on the . . 3rd day.
" " . . 6th day.
" " . . 6th day.
" " . . 7th day.
" " . . 7th day.
" " . . 8th day.
" " . . 10th day.

Five cases in which the sac was opened:

Convalescent on the . . 4th day.
" " . . 7th day.
" " . . 7th day.
" " . . 9th day.
" " . . 10th day.

So many circumstances arise in the progress of a case of hernia to retard convalescence, that I do not myself attach much importance to these results.

49. (8.) The immediate cause of death revealed by post-mortem examination, varied as follows:

1st. In 5 cases to acute peritonitis.

2nd. In 3 cases the portion of the intestinal tube which had formed the hernia was only partially recovered from its constriction, and in 2 it was gangrenous.

3rd. In two cases a fæcal fistula formed through the wound, and in one of these the cause of death was a large abscess developed behind the peritoneum, in the lumbo-sacral region. The other patient declined through exhaustion, and a necropsy was refused.

4th. In one case wide-spread subcutaneous suppuration assisted dissolution. It commenced at the wound, and burrowed over the front of the abdomen, and backwards into the lumbo-gluteal regions. In this case, the violence used in the taxis was so great as to produce inflammatory effusion into the tissues around the hernial tumour, which was observed during the operation.

5th. In 2 cases, to the exhaustion consequent upon the nervous depression produced by the irritation from the constriction; for in both the cases the injured bowel had nearly recovered a healthy state. In one of these, scybalæ existed in the small intestine, close above the constricted bowel.

6th. To acute bronchitis, in one case.

In 4 cases the necropsy was refused, and of these one died, probably from ulceration of the injured bowel, on the eighth day after the operation, and 2 others never rallied from collapse, induced by vomiting and suffering.

PART III.

50. In 6 cases I have been successful in returning the hernia, without even dividing the fascia, or *tunica propria*, as it is termed. A simple division of the fibres of Gimbernat's ligament, or more correctly described, perhaps, as the fibres of the falciform process of the fascia lata which unite with Gimbernat's ligament, being all that was required to liberate the constricted bowel.

An oblique or vertical anterior or lateral incision was made through the skin and superficial fascia over the neck and surface of the tumour, and extending about one inch above Poupart's ligament, on to the abdomen, and when Poupart's ligament was clearly seen or felt a hernia knife was directed by the left index-finger underneath this structure, and close upon the anterior and internal aspect, but outside of that covering of the hernia termed the fascia propria. A free division of the fibrous tissues in this region was next made with the knife directed inwards and upwards. Gentle pressure on the contents of the sac enabled me to return the hernia.

51. Of these 6 cases thus treated by myself, 3 were cured and 3 had a fatal result. My colleagues, Messrs. Poland and Callaway, have each operated in this way, and with a happy result.

An abstract report of the cases thus treated is as follows:

Case 1.—C. C——, aged forty-five, a married woman, and mother of nine children, in the enjoyment of good health, although spare and thin, had been the subject of a femoral hernia on the right side for eight or nine years. She had never worn a truss, yet the contents of the sac had never before been irreducible. About three P. M. on October 30th, 1852, the hernia became swollen and painful, and soon after this she vomited. When I saw her, well-marked symptoms of strangulated bowel existed. The tumour was large, bi-lobed, and with its long axis parallel with Poupart's ligament. The taxis had not been used before admission into the hospital. She was placed in a warm bath, and two grains of opium in powder administered. After the lapse of a short interval, I attempted to reduce the bowel by the taxis. This proving unsuccessful, I made a vertical lateral incision along the inside of the swelling, dividing the skin and superficial fascia, and thus exposing the "tunica propria," Poupart's and Gimbernat's ligaments. I next inserted a straight, probe-pointed hernia knife, beneath the upper boundary of the femoral ring, and divided it upwards and inwards. Very slight pressure on the tumour enabled me to return its contents, the sensation experienced at the moment leading me to believe that there was only intestine in the sac. The patient was immediately relieved, and on the sixth day afterwards was convalescent. She had been suffering thirty hours before she came under my observation, and symptoms of strangulation of the bowel had existed twenty-nine hours. The bowel had been in a state of strangulation twenty-nine hours and a-half before it was released.

Case 2.—M. S——, aged fifty, a thin, cachectic, miserable, single woman, had been the subject of irreducible left femoral hernia thirty-one years. This tumour was probably dependent upon a portion of adherent omentum, and upon this she had worn a truss for about three months. The pressure of the truss caused great pain. On the 9th of May, 1854, the tumour became larger, painful, and she could not diminish its size, as she had been accustomed to do. Soon after this she vomited. A surgeon applied the taxis after she had been in a hot-bath, but he could not reduce the hernia. Urgent indications of strangulation of bowel existed when I saw her, and no advantage was likely to be gained by delaying the release of the viscus. When she was under the influence of chloroform, I tried to return the intestine, but the attempt was unsuccessful. The tumour was large, tense, painful when pressed, and was lying with its long axis parallel with Poupart's ligament. I made an oblique lateral incision over the neck of the tumour, through all the textures superficial to the "fascia propria;" Gimbernat's ligament was then easily divided, as in the first case, and the displaced bowel returned. The omentum, adherent to the sac, was left therein. This patient made a slow but favourable recovery. The patient had been suffering thirty-nine hours before I saw her, and for thirty hours symptoms of strangulated bowel had existed. The bowel had been strangulated about thirty-two hours before it was released by the operation, and the taxis had been gently applied, and for a short time only.

Case 3.—J. T——, aged sixty-six, an aged, fat, healthy, temperate, married, but sterile woman, had been the subject of right femoral hernia seven years. Twice before it had been irreducible, and once for two days. A truss had been worn "off and on" for the whole period of its existence. She came into the hospital with well marked symptoms of strangulation of the bowel, the taxis having been gently employed by a surgeon. The tumour was large and painful. Mr. Poland, after dividing the tissues superficial to the "fascia propria" incised the femoral ring, and immediately the bowel was easily reduced. Some omentum, adherent to the sac, was allowed to remain in it. This patient was convalescent in a few days, without an untoward symptom. In this instance the tumour was usually large, and perhaps this circumstance, together with the omentum, prevented the return of the bowel by the taxis.

Case 4.—M. M. C——, aged seventy-three, a decrepid, fat, bronchitic woman, and mother of eleven children, who had been the subject of left femoral hernia for more than twenty years, and for the last two of which she had worn a truss, came into Guy's with well-marked indications of strangulated intestine. The tumour was large, painful, tense, and extended outwards from the femoral ring, lying parallel with Poupart's ligament. It had never been so large as on the present occasion. Taxis was ineffectually applied. All the tissues superficial to the "fascia propria" were divided, and the femoral ring next enlarged by incising its superior and internal margins. When this was done, the intestine was easily reduced. A portion of omentum adherent to the peritoneal sac was not returned. Stimuli and opium were administered, but, on the fourth day after the operation, she expired from the effects of bronchitis. All the symptoms connected with the hernia had been entirely relieved.

Necropsy.—Body fat and senile. The bronchi were filled with mucus, the tubes thickened, rigid, and misshapen. The mitral and aortic valves were opaque, thickened, and inelastic. Parietes of abdomen fat; no decided signs of peritonitis. Viscera rather distended. In the left iliac fossa lay about three inches of ileum, of a purplish hue; its tissues were quite healthy. The liver was fatty. Within the wound in the left femoral region was a large clot of blood, but no divided large vessel could be traced. The femoral ring had been divided outside the "fascia propria," and this membrane was thick and adherent to the peritoneal sac. This last contained some omentum adherent to its neck, and a little dark serous fluid. There was no blood within it. The kidneys were pale and their tubes degenerating.

Case 5.—S. J——, aged sixty-two, travelled twenty-three miles to the hospital whilst suffering with strangulated femoral hernia. She had a healthy aspect, although her tissues were rather fat and relaxed. She enjoyed good general health. For the last seven or eight years she had been the subject of an irreducible omental hernia through the right femoral ring. Upon this a truss had been constantly worn. Twenty-six hours before admission the swelling in the right femoral region became larger than usual and painful. She soon afterwards vomited, became greatly depressed, and the symptoms of strangulated bowel were most marked, and attended with extreme prostration. When she arrived at Guy's, the tumour was nodulated, elongated, its long axis lying parallel with Poupart's ligament, very tender when touched, tense and rather red. Taxis had been employed by a surgeon. She was placed under the influence of chloroform, and in this condition I attempted to return the protrusion by manipulation of the tumour. Not succeeding in my efforts, I next divided the skin and superficial fascia with a scalpel, and directed a hernia knife through the femoral ring. This foramen being enlarged, very gentle pressure upon the contents of the hernial sac sufficed to return the intestine to the abdominal cavity. The omentum was left in the sac. Small doses of opium, and stimuli, were administered, but the patient scarcely ever rallied from the extreme depression, and survived the operation seventy hours. This patient had been suffering about twenty-seven hours, and the bowel had been strangulated twenty-six hours before I saw her. She travelled twenty-three miles to the hospital. The bowel had been strangulated twenty-six hours and a half before it was returned to the peritoneal cavity. She died seventy hours after the strangulation of the bowel had been relieved and ninety-eight hours after the first symptoms of the attack manifested themselves.

Necropsy.—In the right pleura were old adhesions. The bronchi contained frothy mucus. The upper lobes of both the lungs were emphysematous. About three inches of the ileum, near its commencement, were much congested, and its peritoneal surface was granular. The mucous membrane of the piece of the bowel which had been constricted was much congested, and fæcal matter was adherent to it. The liver soft, pale, moderately fatty. The hernial sac contained a portion of the omentum, which was adherent to its base and neck: there was not any intestine in it. The neck of the sac had been freed by a division of the fibres of Gimbernat's ligament external to the fascia propria. There was a small portion of the ileum near to the cæcum congested. Kidneys small, atrophied; peritoneum slightly greasy.

Case 6.—A. H——, aged fifty-seven, a cachectic, extremely emaciated, aged looking, single woman, and with lateral curvature of the spine, had been the subject of left femoral hernia for four or five years. It had never before been irreducible, and she had never worn a truss. Seventy-eight hours before admission into Guy's Hospital the tumour became unusually large and painful, and in about eight hours afterwards she vomited. When I saw her for the first time, she exhibited all the well-marked signs of the existence of strangulated intestine. By the advice of a chemist, she had been taking purgative pills and castor oil, but all had been vomited. A few hours before admission a surgeon had applied the taxis. I found a small, elastic, tense tumour, tympanitis of the abdomen, and great prostration.

I made a vertical central incision through the skin and superficial fascia covering the tumour, and next divided the margin of the femoral ring upwards and inwards with the hernia knife. Immediately this was done, a gentle pressure was made upon the hernial protrusion, and the intestine passed easily into the abdominal cavity. Stimuli were administered, but the patient survived the operation about forty hours only.

This patient had been labouring under strangulated hernia 73 hours before the bowel was relieved, and she survived the first symptoms of the attack 118 hours.

Necropsy.—Great injection of the peritoneum, and of the intestines above that portion of the ileum which had been injured by the constriction to which it had been subjected. There was no inflammatory effusion in the peritoneal cavity. Numerous scybalæ existed in the lowermost two feet of the *small* intestine. Great distension of the alimentary canal above the injured bowel, and near it masses of scybalæ; below this, the tube was contracted about the mucus it contained, and bloodless. The piece of ileum which had been strangulated was only slightly injected, and it had very nearly recovered its healthy aspect. The parts about the site of the hernia were healthy. The attachment of the fascia lata to Gimbernat's ligament, rather than this ligament itself, strictly speaking, had been divided to facilitate the reduction of the hernia.

Case 7.—J. M——, aged forty-five, a widow, and the mother of eleven children, was brought to the hospital from a neighbouring union-house. She had enjoyed good health, but was very thin, and had of late obtained but little nourishment. She had been the subject of rupture on the right side for ten years, on the left eight years. A truss had never been used, nor had she ever before this occasion been troubled with either side. The walls of the abdomen were remarkably attenuated and relaxed. About seventy hours before admission, she was taken ill, and when first seen by me the signs of strangulated bowel were well marked. There was great prostration; extreme facial anxiety; the surface of the body cold; pulse small and feeble; tongue moist and white; she had not vomited for some hours. The tumour in the right groin was small, elastic, painful on manipulation, and the small intestines were distended with flatus. A few hours before admission, the union-house nurse had given her some castor oil, which she had not vomited. A surgeon had attempted to reduce the hernia with gentleness, and for a few minutes only.

An hour after her admission, I made a lateral oblique incision over the tumour, and divided the skin and superficial fascia. Having exposed the crural ring, I introduced the hernial knife through it, and divided its superior boundaries upwards and slightly inwards. This being done, a very gentle pressure upon the tumour was sufficient to reduce the protruded bowel. A small piece of omentum adherent to the sac was not interfered with.

The patient slowly but steadily improved in health, and a great part of the wound healed by adhesion. A few days after it had healed, the omentum inflamed a little, suppuration ensued, the pus was discharged, and it soon again healed.

In this case the bowel was strangulated 44 hours, and from the first signs of the descent of the hernia 71 hours had elapsed.

It must be observed, that of the three cases which terminated fatally, one of them, a woman

TABLE III.

A Table to show the influence which the duration of the Strangulation and other causes exert on the Recovery or Death of Patients upon whom an Operation for the liberation of the Hernia was performed.

CASE.	Hours strangulated.	Unfavourable Circumstances.	Age.	Sac opened.	Survived Operation.	Necropsy.
XXIII.	11	Journey 2 to 3 miles; constitutional nutrition defective; taxis; warm bath	70	Yes	51 hours	Acute peritonitis; bowel which formed hernia gangrenous
III.	12	Journey 2 to 3 miles; constitutional symptoms severe; violence in taxis; enema; warm bath	43	Not	195 hours	Peritonitis; unrecovered bowel; extensive subcutaneous suppuration
XVI.	15	Journey 2 to 3 miles; constitutional nutrition very low; constitutional symptoms severe	73	Not	96 hours	Bowel which formed hernia recovering; acute bronchitis
XVIII.	26	Journey 23 miles; constitutional symptoms severe	63	Not	70 hours	Bowel recovering
XIX.	31	Journey 31 miles; constitutional nutrition bad; constitutional symptoms severe; taxis; warm bath	64	Yes	52 hours	Acute peritonitis; bowel which formed hernia inflamed
IV.	51	Delicate health: constitutional symptoms severe: taxis; peritonitis at the time of operation	41	Yes	194 hours	Peritonitis; unrecovered bowel; ulceration of mucous membrane
X.	51	Constitutional powers low: constitutional symptoms severe; taxis; peritonitis at time of operation	49	Yes	45 hours	None permitted; never rallied from collapse
XX.	55	Constitutional nutrition defective: constitutional symptoms severe; taxis; warm bath	67	Yes	25 days	A large post-peritoneal abscess; fæcal fistula
XXI.	57	Constitutional nutrition bad; constitutional symptoms severe; taxis; purgatives	57	Yes	13 days	None permitted; fæcal fistula
II.	71	Journey 7 miles: constitutional symptoms very severe; disease overlooked till day of operation; taxis; purgatives; enemata; warm bath; leeches; peritonitis at the time of operation	34	Not	236 hours	None permitted; *probably* ulceration of bowel
XXII.	73	Cachexia; constitutional symptoms severe; taxis; purgatives; warm bath	57	Not	40 hours	Peritoneum dry; bowel recovered.
XII.	74	Constitutional nutrition very defective; constitutional symptoms severe; peritonitis at operation	75	Not	72 hours	None permitted; *doubtless* peritonitis
VIII.	79	Journey 4 miles; constitutional symptoms severe; taxis; warm bath	51	Yes	40 hours	Acute peritonitis; bowel gangrenous

Average strangulation, 46 hours.

TABLE IV.

CASE.	Hours strangulated.	Unfavourable Circumstances.	Age.	Sac opened.	Convalescent.
VI.	3	Journey 4 miles; warm bath	38	Yes	9th day
XXIV.	12	Constitutional nutrition defective; constitutional symptoms severe; taxis; purgatives	40	Not	7th day
XV.	13	Constitutional nutrition bad; constitutional symptoms severe	66	Not	7th day
IX.	18	Constitutional nutrition bad; constitutional symptoms severe; warm bath	64	Yes	4th day
VII.	29	Constitutional symptoms severe; warm bath	45	Not	6th day
XI.	29	Warm bath	73	Not	8th day
XIV.	32	Constitutional nutrition very low; constitutional symptoms severe: taxis; warm bath	50	Not	10th day
XVII.	36	Journey 4 miles; constitutional symptoms severe; pregnancy	34	Yes	10th day
I.	40	Constitutional symptoms severe	36	Not	2nd day
V.	42	....	66	Yes	7th day
XXVI.	44	Constitutional nutrition very low; constitutional symptoms severe; purgatives	45	Not	6th day
XIII.	60	Constitutional symptoms severe	72	Not	3rd day
XXV.	77	Cachectic; phlegmon; taxis; purgatives: enemas; warm bath	53	Yes	7th day

Average strangulation, 33 hours.

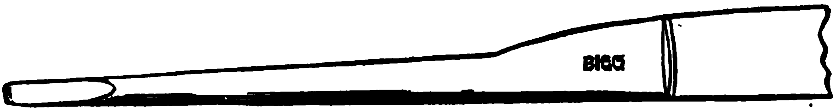
aged seventy-three years, died of acute bronchitis, and that all circumstances in relation to the hernia, as proved by post-mortem examination, were successful. That in the second case, the patient, aged sixty-two, travelled twenty-three miles to the hospital, and arrived there in a state of irrecoverable prostration. And, that the third case was in such a feeble, emaciated, and cachectic condition, that the powers of life were insufficient to carry her through her sufferings.

In the three cases which survived the operation, ninety-six, seventy, and forty hours respectively, the tissues of the bowel, which had been in the sac, were found to have recovered a very nearly healthy condition.

This operation is scarcely more than a modification of the taxis, and would be, if undertaken sufficiently early, quite as successful as that operation is when judiciously performed with gentleness and care.

52. For this method of operating I would propose the term, *the minimum operation for the relief of a strangulated femoral hernia.*

To perform this operation, I have been in the habit of using a bistoury, which differs in shape from the ordinary hernia-knife. It has a long straight shaft, terminated by a blunt end. Close to the blunted end, and extending about three-eighths of an inch from it, is a very slightly concave cutting edge. The cutting edge of the instrument is introduced beneath the tissues forming the crural ring, guided by the index-finger of the left hand, with its flat surface in contact with the anterior surface of the hernial sac, and its edge inwards. The handle is then turned outwards, which brings the sharp edge of the bistoury upwards and in contact with the tissues above it. In this manner they are freely divided, and the tip of the index-finger follows the incision thus made.



Representation of the straight, blunt-ended bistoury used for the division of the tissues about the neck of the Hernial sac.

53. In anticipation of the objections which may be raised to the treatment of those fatal cases in which the peritoneal sac was not opened, I will devote a few lines to their consideration: especially with the view to discover whether, if by opening the sac, the condition of the patients would have been thereby improved.

These cases are II., III., XII., XVI., XVIII., XXIV.

Case II. was one of a young woman in whom the hernia was not detected until the day of her admission into the hospital, and in which instance the bowel had been strangulated seventy-one hours. She had travelled seven miles tó the hospital, taxis had been used, purgatives and enemas administered, and peritonitis existed at the time of the operation. The bowel was easily reduced. All the signs of strangulation vanished, the bowels acted freely, and although recovery proceeded very slowly, there seemed some probability of a favourable result. On the eighth day after the operation, she suddenly became collapsed and died in a few hours. A necropsy was refused, but there could be little doubt that ulceration and perforation of the injured bowel took place, and that extravasation of the contents of the alimentary canal was the result. Had the sac been opened in this case would the final result have been in any way averted?

Case III.—A woman, aged forty-three years, the subject of strangulated hernia twelve hours, and on which the taxis had been vigorously employed, had the hernia returned without opening the peritoneum. All indications of strangulation disappeared, abundant fæcal evacuations took place, but severe phlegmonous inflammation of a low type arose in the subcutaneous cellular tissue about the wound, and extended over the abdominal and lumbar regions. She died on the eighth day after the operation.

Necropsy.—General peritonitis existed, and the injured bowel was dark coloured and, at first sight, apparently in a gangrenous condition. I was, however, very much surprised to find, that the tissues of this viscus were not very much disorganized, but in a state from which I am sure they might have entirely recovered.

Will it be assumed that the condition of this patient would have been more favourable to recovery had the peritoneal sac been opened?

In Case XII., the patient, an old woman, seventy-five years of age, decrepit and feeble withal, did not seek surgical aid until the bowel had been strangulated 74 hours. She was extremely prostrate from continued vomiting, and general tympanitis of the abdomen existed. The intestine was easily returned. The evidence of strangulation of the bowel ceased. Peritonitis was developed, and she died 72 hours after the operation. A necropsy was refused, but death, in this instance, arose from peritonitis and the attendant collapse. I am unable to discover the advantage which would have been gained in this case by opening the sac.

In the Cases XVI., XVIII., and XXIV., the fatality can scarcely be regarded as having arisen from the immediate effects of the hernia itself. The woman, aged seventy-three, Case XVI., died from acute bronchitis. The patient, aged sixty-two, Case XVIII., never rallied from the prostration induced by a journey of twenty-three miles and vomiting for twenty-six hours and a half. A similar irrecoverable state of collapse caused death in a cachectic woman, aged fifty-seven years, Case XXIV. In these three cases, the portion of ileum which had been in the hernial sac had nearly recovered its healthy condition, and peritonitis was not developed.

In Tables III. and IV. I have arranged the cases in such an order as to enable the reader to institute a comparison between the cured and fatal cases at the most rapid glance. In one column of Table III., in which the fatal cases are recorded, the revelations at post mortem examination are stated as briefly as possible. The cases are arranged in numerical order, as indicated by the number of hours the bowel had been strangulated.

Of the cured cases, the minimum of hours during which the bowel was strangulated was 3 hours, the maximum 77 hours.

Of the fatal cases, the minimum period of the strangulation of the bowel was 11 hours, the maximum 79 hours.

Of the cured cases, the average number of hours during which the bowel was strangulated amounted to 33.

Of the fatal cases, the average period of strangulation of the bowel was 46 hours.

Here it should be stated that the duration of the period of strangulation is calculated from the hour when the patient first vomited, and that in all the cases the exact moment of that occurrence was ascertained as accurately as possible.

In comparing one case with another in the two tables—as, for example, the first case (XXIII., Table III.) with Case VI., Table IV.—we observe, in Case XXIII., 11 hours' strangulation. The first patient was seventy years old, the second was thirty-eight years. But why was the bowel gangrenous in only 11 hours? The taxis had been forcibly employed, "for an hour at least," was the expression of the patient.

On that table on which the fatal cases are recorded it is very curious to observe how repeatedly the word "taxis" occurs. Not the less significant is the fact of its absence on the other one.

The length to which this communication has already extended precludes a reference to many points of great practical importance in the treatment of strangulated hernia which these Tables illustrate, and they must be reserved for another occasion.

In conclusion,—the proposition with which I commenced this communication was, to bring prominently into notice—

I. The causes of death after strangulated femoral hernia;

II. The circumstances by which those causes are brought about; and

III. The means by which they may be avoided.

I. The causes of death are primary and secondary:—

1. Prostration; peritonitis; gangrene of the intestine; perforation.

2. Bronchitis; abscess behind the peritoneum; phlegmonous inflammation and suppuration.

II. The circumstances by which they are brought about:—Age; a journey; the defective constitutional nutrition of the patient; the morbid state of the canal above the strangulated piece of bowel; injury of the hernia, caused by constriction of the ring, and by manual violence inflicted on it; the duration of the suffering; the intensity of the constitutional sympathies; fæcal fistula; neglect of the tumour; the administration of purgatives; warm bath.

III. The means by which they may be avoided are:—By care in manipulation; the early relief of the bowel from constriction; the reduction of the hernia without opening the peritoneal sac; the exhibition of opium; and the avoidance of all causes likely to induce exhaustion.

I hope I have been successful in arriving at fair and legitimate deductions, and that I have shown that it is by the study of individual facts that we succeed in the establishment of general truths.

Green-street, Grosvenor-square, 1856.

INTESTINAL FEVER; ITS MODE OF PROPAGATION.

By William Budd, M. D.,

PHYSICIAN TO THE BRISTOL ROYAL INFIRMARY.

There are few things in which the people of this country have a deeper concern than in knowing the real truth in what relates to the mode in which this fatal disorder is disseminated amongst them. Every year, on an average, some twenty thousand British souls perish miserably by it, and disasters, which, occurring in the army of the Crimea, made the nation shudder, occur annually in the peaceful, working army at home, without giving the nation a thought. As for one who dies of this fever there is reason to believe five or six recover, some 100,000 or more of our people must every year pass through its protracted miseries. The real amount of human suffering involved in this is, however, but feebly represented by mere arithmetic. No one can know what these figures really imply who has not had experience of this disorder in his own home. The dreary and painful night-watches, the unusual length of the period over which the anxiety is protracted, the long suspense between hope and fear, and the large proportion of cases in which hope is disappointed and the worst fear is at last realized, make up a sum of distress that is happily scarcely to be found again in the history of any other acute disorder. Even in the highest class of society the introduction of this fever into the family, is an event that, in most cases, long stands out in relief in the record of family afflictions. But if this be true in the houses of the rich, who have every means of alleviation which wealth can command, how much more true must it be in the cottages of the poor, who have scant provision even for the necessaries of life, and none for its great emergencies? Here, when fever once enters, want soon follows, and contagion is not slow to add its peculiar bitterness to the trial. As the disease is by far most fatal to persons in the prime of life, the father or mother, or both, are the first to perish when death ensues, and the young survivors being left without support, their home is broken up, and their destitution becomes complete. How often have I not seen in past days, in the single narrow chamber of the workman's cottage, the father lying in the coffin, the mother in the sick bed in muttering delirium, and nothing to relieve the desolation of the children but the devotion of some poor neighbour, who too often paid the penalty of her kindness in becoming herself the victim of the same disorder. In its ordinary course human life has few such consummations of misery as this. It is impossible to contemplate events such as these merely as objects of science. It is, indeed, a fundamental axiom in scientific investigation, that our emotions should be rigidly excluded from it. But although by the nature of things they cannot help in the solution of a problem, they may at least be suffered to give a spur to inquiry. Where the interests concerned are the sacred and unspeakable interests of life and death, this is their proper function, and that in a degree of which none of the common alternatives which hang upon human duty can give any real measure. It were well for us all if they were oftener allowed to have their true weight with the conscience. Having been by accident thrown much in the way of this fever, I have long felt that it is impossible to bear a part in the calamities of which it is the source, without becoming possessed by a burning desire to devote the best powers of the mind to discover means, if such there should haply be, by which such calamities may be prevented. From the fact already referred to, of its being so much more deadly to grown-up persons, this disease has a relation to pauperism which is peculiar to itself. In this fever the workhouse finds its chief purveyor.

"From returns made in 1838 by the medical officers of twenty unions and parishes in the metropolis, it appeared that 13,972 cases of claims to relief, on the ground of destitution, were created during that year by attacks of fever alone; and that in 1281 cases the attacks proved fatal. The general deaths from fever in the metropolis during that year appear, from the summary of the Superintendent Registrar's returns, to have been 5634.—(*Letter from the Poor-law Commissioners to the Metropolitan Board of Guardians.* Nov. 1840.)

One of the most interesting of the many writers who have dwelt on this point expresses himself in the following words :—

"A fever which consigns thousands to the grave consigns tens of thousands to a worse fate, for fever cuts off the parents, leaving the wretched offspring to fill the future ranks of prostitution, mendicancy, and crime."

It is humiliating to think that issues such as these should be contingent on the powers of an agent so low in the scale of created things, that the mildew which springs up on decaying wood must be considered high in comparison. To know how these powers take effect, in what way they grow to such a height, and to learn therefrom, perchance, by what means their operation may be defeated, are problems in which human happiness is deeply interested. Perhaps there are few battles to be fought in which a successful issue depends so closely as here on a real knowledge of the enemy. If it be true of diseases in general that all prevention must be based on an intimate acquaintance with their causes, it is still more true of that great group of diseases which are the work of definite and specific agents, having not only the power of subsisting within the body, but capable, for limited periods at least, of existing externally to it. For it is clear that in such a case a thing against which we may be powerless, so long as it infects the body itself, may present, on its issue from the body, the conditions of an easy conquest.

That the specific form of fever which is attended with a specific disease of the intestinal follicles is a true member of this group may be very easily proved.

In saying, in the number of THE LANCET for December, that this fever is a *contagious* fever, I was well aware that I was making an assertion to which the great weight of medical opinion in this country is directly opposed. Not to speak of minor notabilities, the whole *prestige* of the Board of Health, and of the London Royal College of Physicians, may be cited against it. To make unceasing and implacable war against contagion and contagionists seemed with the former, indeed, to be, for some years, the chief purpose of its existence. And although many important changes have lately occurred in its staff, there is still abundant evidence that in dealing with this and kindred questions this Board is unable to shake off its old traditions.

At page 46 of the Report on Cholera to which the Royal College of Physicians has lent its name and influence, an elaborate parallel is drawn between the conditions affecting the prevalence of that pestilence and that of this species of fever, with the express view of showing that the real affinity of cholera is to diseases which are generated by endemic miasms, in contradistinction to diseases which spread by contagion. The parallel is just, and in one sense extremely important, but its whole value lies in the fact that the true inference to be drawn from it is precisely the reverse of that which the author has adopted.

It is a truism to remark that questions like these must be decided, not by authority, but by evidence. Tried by this test, it will not be difficult to show that the dogma to which the Board of Health and the Royal College have given their *imprimatur*, is directly opposed to fact, and can only be temporarily upheld by that concurrence of fashion with the influence of great names, whose power in perpetuating popular fallacies led Socrates, more than two thousand years ago, with characteristic love of paradox, to say that "opinion is stronger than truth."

Dr. Watson, in the admirable discussion of this subject which occurs in his lectures on Continued Fever, makes the curious remark, that the opinions which different men entertain upon it seem to bear some relation to their views on other questions; and adds, in illustration, that all the anti-contagionists he has met with held what are called liberal views in politics and religion. I have no means of knowing whether the many eminent men who have lately taken this side are radicals and free-thinkers, but I feel very sure that in one important article of their belief they have departed from the true faith.

It is obvious that the formation of just opinions on a question of this kind may often depend less on personal ability than on the opportunities for its determination which may lie in the way of the observer. It is equally obvious that where the question at issue is that of the propagation of disease by human intercourse, country districts, where the population is thin and the lines of intercourse are few and always readily traced, offer opportunities for its settlement which are not to be met with in the crowded haunts of large towns. This is one of the cases in which medical men practising in the country have, for the acquirement of medical truths of the highest order, advantages which are denied to their metropolitan brethren, and which constitute, on the whole, no mean set-off against the greater privileges of other kinds which the latter enjoy. If my own experience in this matter may be trusted, the immense majority of country practitioners are, as regards this species of fever, decided contagionists. I believe it is also true that an equally large majority of those who practise in large towns, and in London especially, as the chief of large towns, are as decided anti-contagionists. And if the former should prove to be right, the credit must no doubt be given, not to superior insight on their part, but to their possession of a better point of view. It is small blame to the sentinel who is posted in a wood, if he see less clearly and report less truly of the movements in the enemy's camp than the watchman on the hill.

Seventeen years ago, while engaged in country practice in Devonshire, outbreaks of this species of fever repeatedly fell under my eye, under conditions singularly favourable for the study of its mode of propagation. Of these outbreaks, the most memorable occurred in the village of North Tawton, in which I then lived. In addition to the advantages enjoyed by country practitioners generally, in the observation of such events, there were others peculiar to the position I then occupied Having been born and brought up in the village, I was personally acquainted with every inhabitant of it; and being, as a medical practitioner, in almost exclusive possession of the field, nearly every one who fell ill, not only in the village itself, but over a large area around it, came immediately under my care. For tracing the part of personal intercourse in propagating disease, better outlook has rarely fallen to the lot of an observer.

At the date of the outbreak in question, the people of the place numbered some 1300 souls. Of these a small minority, consisting chiefly of women and children, worked in a serge factory; the rest were employed in agricultural pursuits. The spot on which this community dwelt is richly endowed with all the natural conditions of health. Built on a dry soil, in the midst of an open and well drained country, and occupying the side of a hill sloping gently to the north-west, this village had been long and justly noted in that part of Devon, for the rare healthiness of its site. What is more to the present purpose is, that it had for many years enjoyed an almost entire immunity from the fever to which it was so soon to pay so large a tribute. This is the more to be remarked, because there were, in the economy of the place, and in the habits of the people, many things which, according to modern views, are hard to reconcile with such a fact. In the first place there was no general system of sewers. A few houses, occupied by the more opulent, were provided with covered drains, but all these might be counted on the fingers. In the cottages of the men who earned their bread with their hands, and who formed the great bulk of the inhabitants, there was nothing to separate from the open air the offensive matters which collect around human habitations. Each cottage or group of three or four cottages had its common privy, to which a simple excavation in the ground or an open ditch at hand served as the cesspool. Beside this it was a part of the economy of all who worked in the fields, as indeed of many more, to keep a pig, one of whose functions was to furnish manure for the little plot of potatoes, which fed man and pig alike. Thus, hard by the cottage door, there was often not only an open privy but a dungheap also.*

Nevertheless, these things existed for many years without leading to any of the results which it is the fashion to ascribe to them. Much there was, as I can myself testify, that was offensive to the nose, but fever there was none. It could not be said that the atmospheric conditions were wanting, because while this village remained exempt, many neighbouring villages had more than once suffered severely from the pest. It could not be said that there were no subjects, for these, as the sequel proved, but too much abounded. Meanwhile, privies and dungheaps continued to exhale ill odours without any specific effect on the public health. Many generations of swine innocently yielded up their lives, but no fever of this or any other sort could be laid to their charge. I ascertained by an inquiry conducted with the most scrupulous care that for fifteen years there had been no severe outbreak of the disorder, and for nearly ten there had been but a single case. For the development of this fever a more specific element was needed than either the swine, the dungheaps, or the privies, were, in the common course of things, able to furnish. In the course of time—as was, indeed, sure to happen—this element was at length added, and it was then found that the conditions which had been without power to *generate* fever, had but too great power in promoting its spread, when once the germ of fever had been introduced. The soil was already prepared; it only required the seed to bring forth the bitter fruit.

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* I am happy to say that, since the date referred to, a great reform has taken place in many of these things. The town is now drained by a system of well-constructed sewers, and pure water, conveyed in closed pipes from an abundant source about a mile distant, is laid on under high pressure through every part of it. So that, in respect to sanitary conditions, North Tawton is now quite a model of a place. The swine, I am told, remain unmolested.

On the 11th of July, 1839, a first case of this fever occurred in a poor and crowded dwelling. Before the beginning of November in the same year, more than eighty of the inhabitants of this village had suffered from it, under my own care. I kept an accurate account of all the principal events which marked this terrible outbreak, and it is to certain of these events, in their bearing on the mode of propagation of this fatal disorder, that I now wish to draw attention. As, however, the narrative will necessarily occupy some little space, it shall be made the subject of another communication.

Bristol, Dec. 1856.

ON TWO CASES OF POISONING BY STRYCHNIA.

By James Campbell, Esq., Glasgow.

In the summer of 1847, Mrs. M——, being in the country, procured from her relative, Dr. ——, a recipe ordering half a grain of strychnia, to be divided into twelve pills. The recipe she got made up at one of the apothecary establishments in this city. On the night of the 11th September, about ten o'clock, she took one of the pills. Mrs. M—— was a person of nervous, bilious temperament, enjoying very good health, indeed, though she was ordered to take strychnia. After taking the pill she went to bed, and was in bed above an hour and asleep, when she awoke, and screamed out "I am poisoned!" started up in bed, fell back again, sprang up again, vomited, fell back in bed again, beat the bedclothes violently with her arms, became convulsed all over, then stiff, her eyes staring in her head, and her features contorted.

Such was the statement made to me on my arrival, which was within twenty minutes after the seizure. Just before my arrival the symptoms had gone off, and she expressed herself as being better, and said she was sure it was the pills that had made her ill. The recipe was handed to me, and whilst I was looking at it she sprang up in bed with a wildly frightened aspect, uttered a suppressed shriek, fell back in bed, the left side being convulsed; beat the bedclothes with her arms; was oppressed for the want of breath, not gasping, but could not breathe; could not inflate the lungs, the muscles of the chest contracting so violently; the eyes prominent; pupils dilated, with a glaring, staring, wildly anxious gaze; features contorted; mouth drawn to one side; the convulsions spasmodic, agitated twitchings, assuming a tetanic form; she became quite stiff.

Finding that strychnia had been taken, and being of opinion that the apothecary, in preparing the pills, had mistaken the half grain, and put in half a drachm, and that she had already vomited, and that the portion of the poison which had been absorbed was producing its deadly effects upon the tissues upon which it chiefly acts—the spinal cord—the idea suggested itself to me that counter-action upon the nerves passing from the spine to the muscles of respiration might arrest the tetanic action which was seizing the muscles of the chest, and thus prevent death; knowing, by repeated experiments made by myself, that the vegetable poisons only suspend animation, and that, if retarded by any counteracting force upon the organ to which their deadly effects determine, their destructive powers soon cease. Reasoning thus, I applied friction to the spine, causing the same to be done to the soles of the feet and the palms of the hands, when in about ten minutes she came out of the attack, remained so for a few minutes, and then had a second and a third, each less violent than the other, recourse being had to the same mode of treatment. Between each attack she was quite free from any spasmodic, convulsive, or tetanic action; respired comparatively freely; her intellect was perfectly free and unimpaired during the whole time; and in about one hour and from ten to twenty minutes from the first seizure she was completely relieved and recovered.

In the summer of 1849, I was called by Dr. James Kirk, of this city, to see a man, of full habit of body, of bilious, sanguineous temperament, of about thirty years of age, who had, with suicidal intent, taken about ten grains of strychnia. In this case the same train of symptoms was present, and not more violent than in Mrs. M——'s. He also vomited. The spasmodic convulsive twitchings were the same, but the tetanic seizure more rapid; the same oppressed breathing, contorted countenance, prominent eye, &c.; the convulsive, spasmodic, and tetanic paroxysms, with their interval of repose; the mind being also perfectly clear. The same mode of treatment was adopted. The same result followed, in about the same period of time.

I have seen cases of spasm, convulsion, and tetanus; but the appearance of the action caused by strychnia upon the muscles of the body is not the same as in these diseases, but part of all, yet not all. There is no symptom of disease that I have seen that the action bears a strict identity to. It resembles more than anything I know the action caused by the electro-magnetic coil; short, quick, rapid, spasmodic twitchings, taking on after a short continuance a tetanic form, as is seen in applying the two extremities of the poles of an electro-magnetic battery to the extremities of the spine of an inferior animal.

When I say that the patients sat up in bed and beat the bedclothes, I do not infer they did this voluntarily, but rather that it was the result of the spasmodic convulsive twitchings of the muscles before they assumed the tetanic form.

Gallowgate-street, 1856.

THE READY METHOD IN ASPHYXIA.

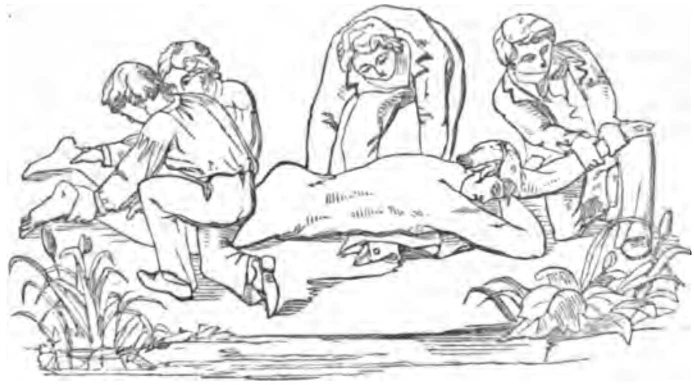
By Marshall Hall, M.D., F.R.S., &c.

A young friend of mine has proposed to designate the postural treatment of asphyxia the *ready method*, no apparatus of any kind being required. I have adopted the suggestion.

Several important additions and improvements having been made in this mode of treatment, I think it right to lay the last and best form which it has assumed before your readers.

It will be obvious to all, that our main objects are—to renew respiration and improve the circulation. Our *means* are physiological and physical; our Rules as follow:—

All obstruction of the glottis being removed by placing the patient in the *prone* position, in which any fluids and the tongue itself fall forward (*Rule I.*) our *first* effort is to *excite* respiration physiologically (*Rule II.*); our *second*, if this fail, is to *imitate* the acts of respiration mechanically (*Rule III.*); our next object is to endeavour to improve the circulation, which is done by promoting the flow of the venous blood, and to restore warmth, in the limbs (*Rule IV.*); we again, as we proceed, revert to the physiological principle of *exciting* respiration from time to time (*Rule V.*).



RULES.

1. Treat the patient *instantly, on the spot*, in the *open air*, freely exposing the face, neck, and chest to the breeze, except in severe weather.

2. Send with all speed for medical aid, and for articles of clothing, blankets, &c.

I.—To Clear the Throat,—

3. Place the patient gently on the face, with one *wrist* under the forehead;

[all fluids and the tongue itself then fall forwards, and leave the entrance into the windpipe *free*.]

II.—To Excite Respiration,—

4. Turn the patient slightly on his side, and
   (i.) Apply snuff or other irritant to the nostrils, and
   (ii.) Dash cold water on the face previously rubbed briskly until it is warm.

If there be no success, lose no time; but,—

III.—To Imitate Respiration,—

5. Replace the patient on his face;

6. Turn the body gently, but completely, *on the side and a little beyond*, and then on the face, alternately; repeating these measures deliberately, efficiently, and perseveringly, fifteen times in the minute, *only*;

[when the patient reposes on the thorax, this cavity is *compressed* by the weight of the body, and *expiration* takes place; when he is turned on the side, this pressure is removed, and *inspiration* occurs.]

7. When the *prone* position is resumed, make equable but efficient *pressure along* the spine; removing it immediately before rotation on the side;

[the first measure augments the *expiration*, the second commences *inspiration*.]

IV.—To induce Circulation and Warmth,— continuing these measures:

8. Rub the limbs *upwards*, with *firm pressure* and with *energy*, using handkerchiefs, &c.

9. Replace the patient's wet clothing by such other covering as can be instantly procured, each bystander supplying a coat or a waistcoat.

Meantime, and from time to time,—

V.—Again,—to Excite Inspiration,—

10. Let the surface of the body be *slapped* briskly with the hand; or,

11. Let cold water be *dashed* briskly on the surface previously rubbed dry and warm.

The measures formerly recommended and now rejected by me are,—removal of the patient, as involving dangerous loss of time; the bellows, or any *forcing* instrument, and the warm bath, as positively injurious; and galvanism and the inhalation of oxygen, as useless.

The inhalation of dilute pure ammonia has in it more of promise.

For the treatment of stillborn children, excitement of the skin, the alternate cool and hot bath (the temperatures being 60° and 100° Fahr.), postural respiration, and rubbing with pressure upwards, are *the* remedies; but I propose to treat this subject more at length hereafter.

October, 1856.

Medical Societies.

Dec.—Jan.

PATHOLOGICAL SOCIETY OF LONDON.

Mr. Henry Thompson exhibited a

MALE URINARY BLADDER, CONTAINING A VILLOUS TUMOUR.

J. C. S——, aged fifty-nine, fourteen months ago first experienced symptoms of urinary derangement, commencing with an attack of irritability of the bladder, without any very obvious cause. He suffered from this to a great extent, but did not apply for advice until five months ago, when he became an hospital out-patient, and was sounded for stone, having recently passed blood for the first time. He soon became worse, was unable to attend, and was admitted under Mr. Thompson's care, at the Marylebone Infirmary, in September, 1856. He then passed urine, on an average, every fifteen minutes, day and night, and it had a red tint, evidently from admixture of blood. The prostate was not perceptibly enlarged per rectum, but was tender on the left side. He was sounded, but there was no stone nor any difficulty in passing a full-sized catheter. Some sanious pus flowed through the catheter. The urine contained mucus, a fourth albumen, was strongly alkaline; much pus and triple phosphate; blood corpuscles and large granular corpuscles were seen. He was relieved by mineral acids and buchu, with daily hip-baths, and morphia. The blood disappeared under this treatment for a month or more, never returning in considerable quantity. He gradually grew weaker, passed more purulent matter, and died much emaciated on the 12th of November. On opening the bladder, the walls of which were considerably thickened, a mass about the size, and having very much the appearance, of a large strawberry was seen attached to the floor of the bladder, midway between the orifice of the left ureter, and the base of the prostate; near to it was the orifice of a large abscess seated in the wall of the viscus. The neck of the bladder, as well as the tumour, were coated with phosphatic deposit, and the lining mucous membrane was very rugose, thickened, and exhibited dark slate and crimson tints. The tumour became larger and floated out in water. Portions of it, under the microscope, show it to be made up of soft, loosely aggregated filaments, similar to those of fine tissue, with very few small cells. The mass is pervaded in all directions with small bloodvessels. On closely examining the mucous membrane, very minute elevations might be seen throughout its whole extent, not villous but mammillated. Under the microscope, they appeared to be elementary forms of the same disease as that specially developed in the tumour.

Dr. Wilks exhibited a specimen of

CIRRHOSIS OF THE LUNG.

The subject of this disease was a man, aged twenty-four, who died in Guy's Hospital, under Dr. Hughes's care, in October, 1856. He had been suffering four years with a cough, pain in the chest, great dyspnœa, occasional hæmoptysis, and latterly dropsy. He was sent to the hospital as a case of phthisis combined with heart-disease. The left side of the chest was contracted and almost immovable; it was dull on percussion, and tubular breathing was heard. The heart was drawn towards the left side. There was great cough, but only slight expectoration; great dyspnœa and inability of the patient to lie on the healthy side. The face was of a purple hue, from congestion, the whole body livid, the abdomen contained fluid, and the legs were anasarcous. He was temporarily relieved, but soon afterwards died with an increased severity of the symptoms. The body after death presented the appearance of one dead of pulmonary obstruction, as met with in cardiac disease, indicated by the lividity, the dropsy, the serous effusions within the cavities of the body, the nutmeg liver, fibrinous clot in the spleen, &c. The heart, however, was healthy, except a slight hypertrophy of the right ventricle. The left lung was contracted, and firmly adherent to the chest, and when removed and incised, presented the appearance usually known as cirrhosis. Thus, the greater part of the organ was converted into a dense tissue, almost of the consistence of fibro-cartilage, with the colouring matter of the lung interposed. The bronchial tubes were dilated, some uniformly throughout, and others into pouches, and all had lost their healthy mucous membrane.

Dr. Wilks also exhibited a specimen of

OSSIFIC DEPOSIT ON THE MUCOUS MEMBRANE OF THE AIR-PASSAGES.

These came from a man, aged thirty-eight, who died in Guy's Hospital of phthisis, after suffering ten months. The larynx, trachea, and bronchi presented a very remarkable appearance, from the whole of the mucous membrane being covered with a number of small bony plates. These filled up the spaces between the cartilaginous rings, but were quite independent of them. At the bifurcation of the trachea, a large mass projected into the cavity. The microscope showed these deposits to consist of remarkably well-formed osseous tissue.

Dr. Wilks next showed a specimen of

CONTRACTION OF THE RIGHT BRONCHUS.

A man, aged thirty-two, came to Guy's Hospital with syphilitic disease of the larynx and great obstruction to the breathing. Tracheotomy was performed, but the man died, a few days afterwards, of inflammation of the lungs. Besides great disease of the larynx, the right bronchus was found constricted at one spot to less than half its size, and again dilated below. No diseased structures were found around it, and no pressure without which could have produced it. The cartilage was wanting at the spot, as if destroyed. The most likely cause of the disease was the escape of a strumous gland into the tube at an early period of life, and subsequent cicatrization, although a probable origin might be found in a syphilitic ulcer having once existed at the spot, which had afterwards healed and contracted. Further observations were required on this subject.

Dr. Baly exhibited the

SUPRA-RENAL CAPSULES

from the body of the patient whose case he had described at the meeting of the Society on the 21st of October, on the occasion of Mr. Hutchinson showing a portion of the bronze-coloured skin of the same patient. Both supra-renal capsules were much contracted, their natural structure entirely lost, and its place occupied by a nodulated mass of very firm substance, which was reddish-grey, and semi-transparent in its external portion, and yellow and opaque internally. In the left body very little of the semi-transparent portion of the morbid structures remained, and the yellow opaque substance was brittle, and, in parts, hard and calcareous; while, at one point, there was a small cavity containing greenish pus. The microscopic elements of the substance were a fibroid structure, distinct nucleated fibres, and numerous nuclei imbedded in a structureless mass.

Dr. Baly also showed

DRAWINGS OF THE SUPRA-RENAL CAPSULES

from a patient who had died of spinal disease, in one of the surgical wards of St. Bartholomew's Hospital, a few days later, and who had presented no bronze discoloration of the skin. In this case, the same disease existed in the supra-renal capsules, but their proper structure was not entirely destroyed.

In reply to Mr. Hutchinson, he (Dr. Baly) stated that he had not himself seen the latter patient, but he did not believe that the patches of pityriasis versicolor, said to have been observed on the thighs of the patient, could have been the commencement of true bronze discoloration; the characters of the two diseased appearances were so different.

In reply to Dr. Gibbon, Dr. Baly said, that in the former patient, no peculiar colour was noticed in the mucous membrane of the mouth. But, after death, the fat of the abdomen presented a peculiar dull grey, almost slaty, tint: the liver was of an uniform deep-purple colour, but, when cut and exposed to the air, became first bright red, and, after blood had drained from it, brown—nearly like healthy liver. The kidneys were much congested, a state which explained the albuminous condition of the urine during the last two days of life.

Dr. Baly remarked, that two facts, in the history of the case, appeared to him of importance in regard to the pathology of the disease. One was, that the symptoms attending it, apart from the colour of the skin, were not constantly present. The patient had been three times in St. Bartholomew's Hospital: first in October and November of last year, under the care of Dr. Burrows, for six weeks; again in May and June last, also for about six weeks, under Dr. Burrows's care; and the third time, in September last, under his own care. On each of the two former occasions, he was discharged well, except as regarded his complexion, and remained well and at work until near the time of his re-admission. The disease of the supra-renal capsules then, which, doubtless, had been in progress during the whole period, did not produce constantly the remarkable symptoms which the patient exhibited each time that he was in the hospital—viz., the pains in the loins, the loss of appetite and vomiting, the extreme exhaustion, and the frequent yawning. These symptoms, therefore, did not depend simply on the disease destroying the structure of the supra-renal bodies. The second fact was, that during the existence of the symptoms referred to, the colour of the skin became deeper, and faded when they subsided, though it continued of a very marked degree in the intervals of the attacks. Lastly, Dr. Baly called especial attention to the fact, that three weeks or a month before the patient's death, when the structure of the supra-renal bodies was most probably already quite destroyed, the boy was at work, and, in his own belief, quite well. It hence appeared, that the serious symptoms, the fatal result, and probably the bronze skin also, were the effects, not of the mere destruction of the organs in question, but rather of the occasional reaction of the disease in them on some more important organs and functions of the body.

Dr. Graily Hewitt exhibited a specimen of

HYPERTROPHY OF THE HEART, PERICARDITIS, ETC., IN A CHILD.

The specimen exhibited consisted of the heart of a little girl, aged seven, who died of general dropsy, after an illness of three months' duration. Acute articular rheumatism, with which the disease commenced, lasted about three weeks, the heart became affected, and a systolic murmur was heard at the apex of the heart, which progressively increased in intensity. Emaciation, dyspnœa, and other symptoms were then noticed. Two months after the outset of the affection, the feet and body became anasarcous, and a jugular venous pulse was observed. The dropsy extended to the abdomen, and the patient finally sunk. The heart weighed $7\frac{1}{2}$ oz., and was very greatly hypertrophied. The two layers of the pericardium were covered by somewhat recent lymph, of a yellowish-white colour, in places gluing the heart to the pericardium, and especially abundant round the base of the heart. The extreme thickness of the walls was as follows: left ventricle, $\frac{12}{20}$ inch; right, ditto, $\frac{6}{20}$; right auricle, $\frac{3}{20}$; left, ditto, $\frac{4}{20}$. The right cavities contained whitish, firm, fibrinous clots; the left cavities, dark, semi-coagulated blood. The measurements of the orifices were—tricuspid, $3\frac{14}{20}$ inches; the mitral, $3\frac{13}{20}$; the aortic, $1\frac{14}{20}$; pulmonary, 2 inches in circumference. Minute vegetations in mitral valve; none in tricuspid. Right lung in great part consolidated. Both pleuræ contained fluid, as also the abdomen.

Liver and kidneys congested, large. The chief points of interest in this case were the measurements of the orifices, the great hypertrophy of the walls, the absence of great patency of the tricuspid orifice, viewed in connexion with the occurrence of jugular venous pulse through life.

Mr. Jonathan Hutchinson showed

A TUMOUR OF DOUBTFUL GROWTH

removed from the uterus of a woman from Lincolnshire, unmarried. She was of a pale yellow tinge of skin, and had all the general symptoms of cancer, with profuse hæmorrhage. On making an examination by the vagina, he felt a large tumour protruding. The uterus was large, there was great pain, and the general health was bad. He recommended an exploratory examination under the influence of chloroform, and thought of enucleating it. When he saw the woman before, there was no pain or discharge, and he could not discover any tumour. The growth had taken place in one year. It was soft, ulcerated, and nodulated; it had not the feel of a fibrous tumour. He succeeded in tearing away the part in the vagina; the remaining portion sloughed away. The woman is now going on well, and able to attend to her business. On a recent examination, he could not discover any trace of a tumour, and he has not been able to find a similar tumour described anywhere. It breaks up into fibres, but is not like the ordinary class of fibrous tumours, and under the microscope it has no appearance of cellular or cancerous growths.

Mr. Holthouse showed a specimen of

CARTILAGINOUS TUMOUR CONNECTED WITH THE OS INNOMINATUM,

which had been removed from a man, aged thirty-five years, a labourer of intemperate habits, who had been admitted a patient into the Westminster Hospital, under Mr. Guthrie, in November, 1853. The patient was then suffering from acute pain in the left knee and leg, with general wasting of the limb. A tumour was discovered within the abdomen, firmly attached to the os innominatum, very hard, and about the size of a hen's egg. He remained in hospital until January, 1854, and was then discharged without relief. He was again admitted in November, 1854, when the tumour was found on examination to have increased considerably transversely, and extending upwards to the diaghragm. The leg was now much more swollen and painful, there was no rest at night, and the bowels were very much constipated. He was again discharged without relief in March, 1855, but readmitted in the same year. The last time he sought admission was in January of the present year, when he came under Mr. Holthouse's care. His state was as follows:—There was great emaciation; countenance expressive of great suffering; lying constantly on the left side; the left thigh flexed on the abdomen, and the leg upon the thigh. The foot and ankle were œdematous, and there was great pain in the limb and abdomen, though pressure on the tumour did not increase the pain. The tumour occupied nearly the whole of the abdominal cavity; but its circumference could only be felt on the right side, and it pushed the intestines into the right hypochondrial region, where they could be felt on percussion. The tumour was throughout very hard and firm to the touch, giving the sensation as if it were bone. At first it was lobulated, but latterly it had a more uniform and even surface. Death took place on the 4th of November, from pleurisy on the left side. On post-mortem examination, a large lobulated tumour was found occupying nearly the whole of the abdominal cavity; the intestines having been pushed into the right lumbar and hypochondriac regions. The aorta and iliac arteries were pushed over to the right side. On endeavouring to remove the tumour, which was covered by the peritoneum lining the posterior and lateral wall of the abdomen on the left side, it was found impossible to detach it without removing at the same time the three lower lumbar vertebræ, the left half of the sacrum and coccyx, together with a portion of the os innominatum of the same side. The lower ribs, with a considerable portion of the muscular walls of the left side of the abdomen, were so intimately connected with the tumour that they were obliged to be removed with it. The tumour weighed thirty pounds, and it measured forty-two inches in the longitudinal circumference, twenty-five and a half in the upper, and twenty-nine in the lower, without the vertebræ. It had the character on section of enchondromatous or cartilaginous tumour in process of degeneration; some portion had the character and consistence of colloid cancer or boiled sago. Microscopically, it had all the appearance, the firmer parts, of primitive cartilage, without any traces of intercellular fibrous tissue. In other parts, the fibrous tissue appeared blended with cells to such an extent as to leave the nuclei only visible. The fluid contained in the tumour held in suspension a large number of nuclei, set free by the breaking up of cells which originally contained them, and amongst them were what appeared to be altered blood discs.

Mr. Holmes showed the parts removed from a case of

SPINA BIFIDA TREATED BY PUNCTURE, PRODUCING OPISTHOTONOS; DEATH FROM DIFFUSE INFLAMMATION OF THE MEMBRANES OF THE CORD.

L. M——, aged twenty, admitted into St. George's Hospital, under the care of Mr. Tatum, on account of a tumour of the buttock. This patient was a Welshman, and could hardly speak any English, but, as far as the account which he and his friends gave of the case could be understood, it seemed that the swelling had existed from the time of birth, and had been gradually increasing up to that period, without giving him any pain or occasioning any disturbance to the functions of the spinal cord, except on two or three occasions, at distant intervals, when the tumour burst from ulceration of the skin. At these times it was said that involuntary movements of the limb were noticed, and that the bowels acted unconsciously. The tumour was larger than a man's head, situated at the lower part of the sacral region, and attached by a broad short pedicle, as it was supposed, to the lower part of the sacrum, in the middle line. The lowest part of this pedicle was about two inches from the arms. The parts in this neighbourhood were a good deal thickened, so that the deep connexions of the tumour could not accurately be made out. Its contents fluctuated very distinctly; its surface was covered by large tortuous veins, and the skin was ulcerated in one or two places from the irritation of his clothes. He seemed in good health, and suffered no inconvenience from the swelling except what was occasioned by its enormous size. This annoyance, however, was so great that he was willing to submit to any operation that would afford him a prospect of cure. The tumour was punctured with a grooved needle, and found to contain a clear, transparent, light-yellow fluid, differing from the serum of the blood in containing a much less quantity of albumen. Five days after admission a trocar was introduced at the lowest part of the swelling, a little to one side of the middle line, and about half a wash-hand basinful of this fluid drawn off. This left the tumour about the size of his head. Two days after the tapping, erysipelas appeared round the puncture. He complained of pain in the belly and in the head, and it was noticed that he kept the head drawn backwards. The pulse was rather weak, but few constitutional symptoms were noticed. Wine and diffusible stimulants were given. Next day the urine and fæces passed involuntarily, and the head was still further retracted. No muscles appeared then affected, except the deep muscles at the back of the neck. The retraction increased daily during the next three days, accompanied by pains about the lower part of the sternum, and difficulty of swallowing; the latter, however, was probably due only to the position of the head, which on the third day of the attack was noticed to be pushed back so as almost to make a right angle with the spine. This position was not noticed to be altered in sleep. The treatment consisted in the exhibition of mercury in the form of bichloride. The erysipelas of the skin soon subsided, but the opisthotonos continued, with rapidly increasing prostration. On the sixth day after the tapping, and fourth after the attack of erysipelas, the tumour gave way, from extrusion of one of the ulcerations previously noticed, and its contents were almost all discharged in the course of the day. His strength continued to fail rapidly, and he died in the evening.

On post-mortem examination, the sac was seen to be lined by a membrane resembling mucous membrane in appearance, highly vascular, and coated in some places with lymph. At the upper part of the neck of the sack was an aperture, apparently in the situation of the natural orifice of the sacral canal, and leading into the subarachnoidian space. The bones seemed perfectly ossified. The membranes of the cord were much thickened. Extending along the cord from its lower end to about the middle of the dorsal region, was a collection of pus, and the core in this situation was softened in the parts adjacent to the purulent fluid; otherwise it was quite healthy. None of the spinal nerves were found to communicate with the sac. There was a large quantity of cerebro-spinal fluid, which was opaque and of a dull-grey colour. The cranium was perfectly ossified, but very thin; the brain and the rest of the viscera were healthy.

Mr. Holmes showed a specimen of

INTUSSUSCEPTION OF THE SIGMOID FLEXURE OF THE COLON AND UPPER PART OF THE RECTUM.

The patient, a man of about forty, by trade a tailor, applied for admission on account of what he said he had been told was a fistula. On inquiry, however, nothing could be ascertained from him, except that he had been suffering from alternate constipation and relaxation of the bowels for some time. Of this he had taken little notice, as he, like most men of his trade, was subject to other irregularities. For some days preceding (he said for more than a week) he had had no action of the bowels. This constipation had followed immediately on an attack of diarrhœa. He looked very much out of health, but was not particularly feeble. He was sent to bed, and laxative medicines given. There was no fistula. On the second day after his admission, as no action of the bowels had taken place, an examination was made. The sphincter was so relaxed that it offered no resistance to the passage of one or more fingers into the bowel. Projecting into the gut, to within about half an inch of the anus, was a soft, cylindrical tumour, of uniform consistence, smooth on the surface, and covered by the mucous membrane. The finger, when pressed up as far as possible at the back part of the gut, discovered the reflexion of the mucous membrane from the tumour to the wall of the intestine. In front, however, nothing was felt. No opening could be detected in the tumour. An exceedingly foul discharge of mucus, mixed with sanies and fæcal matter, escaped from the anus. The belly was not much distended, but tense and resonant; a little tender on pressure. There was no vomiting, and the tongue was clean; the pulse rapid and weak. Calomel and opium three times a day was ordered. In the afternoon acute pain was complained of in the belly, and slight sickness came on; the pulse was very much weaker than in the morning. The pain increased rapidly, and in the evening was extremely severe. He experienced some slight relief from the application of leeches, but the pulse sank so alarmingly that it was necessary to give him stimulants. At attempt was made to introduce a small bougie, but it could not be passed. The pulse soon became imperceptible, the extremities and lips cold, and he died in the morning.

Owing to peculiar circumstances, the examination was not made till three days after death (he died in the summer), and in a very hurried manner; only the intestines were examined. Decomposition was advancing rapidly. On opening the peritoneal cavity, it was found full of semi-solid fæces. The great intestine was very much distended, and very black. About the middle of the ascending colon was a large ragged perforation, from which the fæces were straining out on pressure. No other lacerations were seen in the gut at this part. The small intestine appeared healthy. The invaginated part of the great intestine was removed from the body, together with the bladder and prostate. The intussuscepted portion measured more than three inches. The mucous membrane coating the gut was dark, and abraded in some places. A small opening existed at the apex of the protruded part, of an irregular form, with ragged edges, which proved to be that of the canal of the intestine. At the point where the intussusception commenced the gut was considerably constricted, and here a perforation existed at the anterior part, leading into the recto-vesical pouch of the peritoneum.

Mr. Sedgwick exhibited

A LARGE ENCEPHALOID TUMOUR FROM THE POSTERIOR MEDIASTINUM

of a laundress, aged fifty-five years, who, after suffering much from dysphagia, ultimately lost, for several weeks before death, the power of swallowing, so that neither food nor drink appeared to enter the stomach, but was arrested about midway in its passage downwards, and quickly rejected unchanged. Life was supported during this period by the administration three times a day of enemata, composed of beef-broth and cod-liver oil. After death, a large, irregularly-defined, nodulated tumour was found in the posterior mediastinum, which presented, on section and under the microscope, the characters of encephaloid cancer. The œsophagus, for four inches and a half of its course, was in immediate relation with and partly imbedded in the tumour, but it admitted, with some difficulty, of the passage through it of a forefinger, even at the part where it was most closely surrounded by the tumour. The vena azygos, for two inches of its course, was filled with and partly distended by an elongated mass, similar to the firmer part of the large tumour. The vagus nerve on each side was imbedded in the tumour, and exhibited a remarkable fusiform enlargement, which, examined microscopically, was found to consist of a basis of granular matter, with fine fibres, intermixed sparingly with nerve tubules. Mr. Sedgwick directed particular attention to the vena azygos and vagus nerves in this case. The morbid deposit found in the vena azygos corresponded with the condition of the same vein in a case of osteoid cancer, published by him in the *Medico-Chirurgical Review* for last year. The bulbous enlargement of the vagus nerves he regarded as essentially connected with the prolonged suspended functions of the stomach.

Mr. Birkett exhibited the preparation of

AN ADENOCELE,

removed by Mr. Cooper Forster from a patient, admitted under the care of Mr. Birkett, into Dorcas ward in August, 1856. The patient was thirty-six years old, and the tumour was growing about two years. She was a delicate, cachectic-looking woman, and greatly emaciated. In the region of the right breast there was a large, pendulous, vascular growth, which seemed to have taken the place of that organ. Its surface was brilliant-red, and there were luxuriant, vascular granulations over a surface of about six inches. Considerable serous discharge flowed from the surface, saturating her clothes. The entire mass was lobulated, being moveable on the chest. The lymphatic system was healthy. After excision, the tumour exhibited all the structures of adenocele—viz., lobes, lobules, and cæcal terminations of ducts, connected by areolar tissue, and full of epithelium. The patient recovered entirely, and left the hospital in greatly improved health.

Mr. Birkett exhibited also a new growth, removed from the region of the deltoid muscle by Mr. Williams, of Dolgelly. It was entirely confined to the integuments, and growing from fascia, and exhibited all the structures and minute elements of the recurrent fibro-plastic developments, which are described and delineated in the "Transactions of the Pathological Society," vol. vi. p. 339, plate xvi., fig. 6.

Dr. Bristowe exhibited two specimens of

DISEASE OF THE SUPRA-RENAL CAPSULES.

The first case was that of a female, aged eighteen, who came under the care of Dr. Peacock, at St. Thomas's Hospital, in December last. She then laboured under rheumatic pains, with feverish symptoms; and, subsequently, the left knee became swollen, tender, and painful. The leg then became œdematous, and the œdema extended up to the abdomen. It was inferred that there was some deep-seated tumour in the abdomen pressing up the veins of the left lower extremity; and this became afterwards very obvious. She was seized with bronchitis, and died in about a fortnight. Throughout her illness her complexion was remarkably hale and clear, and there was no burning of the skin.

The second case was that of a man, aged fifty-five, who was admitted into St. Thomas's Hospital, under the care of Dr. Peacock, during the summer. He laboured under general debility, cough, and rheumatic pains in the limbs. The patient had worked forty-six years as a coppersmith; and as there was a deep purple line round the edges of the gums, in the absence of any evidence of local disease sufficient to account for the symptoms, it was supposed he might be suffering from cupreous impregnation. Subsequently he became greatly emaciated, vomited his food, had diarrhœa, and feverish cough, with profuse expectoration; indeed, the ordinary symptoms of senile phthisis. He died in about two months. During his illness there was no discoloration of the skin. The gums were examined by Dr. Dundas Thompson for copper, lead, and antimony, but they yielded no traces of those metals.

Mr. Sydney Jones showed a specimen of

ENCEPHALOID DISEASE OF THE CERVICAL GLANDS, FORMING A MASS WEIGHING BETWEEN SIX AND SEVEN POUNDS.

Daniel White, aged forty, a baker, was admitted July 15th, 1856, into St. Thomas's Hospital. In February last (about five months previous to his admission), when in the Crimea, a small oval tumour, the size of a walnut, appeared opposite the left corner of the hyoid bone. This was followed by other similar tumours developed along the posterior edge of the sterno-mastoid. At first isolated, they gradually coalesced, forming a large mass which gradually involved the surrounding parts; the adherent integument soon acquiring a dark purplish hue. In the early part of July, the right side of the neck began to be similarly affected, and speedily attained a large size. The growth, except when exposed to the sun or wind, was quite painless. Both sides rapidly increased in size, somewhat impeding respiration and deglutition. Some short time after his admission, sloughing commenced on the left side, about two inches below the ear; and copious bleedings frequently accompanied the discharge from the ulcerated surface. The frequent recurrence of these rapidly undermined the patient's strength, and death took place on the 15th of November. Though perfect respiration seemed impaired, he died rather from anæmia than from asphyxia. The diseased mass consisted of two portions (a right and a left), separated in the median line by the larynx and trachea, having upon them healthy thyroids. The right half was lobular, and its origin in the cervical glands was very evident; so also was the inner portion of the left; but in the outer part of the mass on this side were involved the sterno-mastoid and some of the deep cervical muscles, so that its immediate origin was rendered less evident. Behind and above, the disease had extended to the tonsils and base of the tongue. The tonsils were much enlarged, and encroached upon the superior aperture of the pharynx. The larynx and trachea were healthy, their calibre being but very slightly diminished. The viscera of the thorax were healthy. The mesenteric glands were enlarged (from the size of a pea to that of a walnut), very soft, and consisted of a brain-like substance. Each kidney presented five or six whitish masses, from the size of a nut downwards. The axillary glands were enlarged, and affected in the encephaloid. The tumour in the neck, the tonsils, circumvallate papillæ, the axilla, and mesenteric glands, were soft and brain-like, breaking up readily, and yielding a creamy juice. The microscope showed the deposit to be made up of nuclei, round or oval, each about the size of a blood-corpuscle, and having a distinct nucleolus; the former portions were imbedded in a tissue of a fibroid character. The masses in the kidney yielded very little juice, and that watery; they belonged rather to the scirrhous variety of cancer, the nuclear element being occasionally, but sparingly, present. The tissue was infiltrated with an imperfectly fibroid material, of a highly refractive character.

Dr. Cockle exhibited specimens of

DISEASED SUPRA-RENAL CAPSULES AND KIDNEYS,

removed from a woman aged sixty-five, who had formerly suffered from several well-marked attacks of gout and jaundice. It was not, however, until a year or two ago that her health became seriously impaired. She complained of gradually-increasing dyspnœa, palpitation, distressing cough, pain in the loins, with irritability of the bladder. About this time she came under the care of Mr. Robinson, who detected disease of the heart, and found the urine constantly albuminous upon the application of the ordinary tests, as also affording, under the microscope, tubuli filled with salts and granular matter. It was also remarked that the skin was of a peculiar whiteness, more so than is usually observed even in the spanæmic condition induced by renal disease. Gradual effusion took place in the pleuræ, peritoneum, and lower extremities, greatly increasing the respiratory distress. A day or two before death, distressing restlessness supervened, with cardiac uneasiness.

Autopsy, twenty-four hours after death.—Extensive effusion into the pleuræ. The lower lobe of the right lung was condensed by fluid pressure; the upper lobes were enlarged; the left lung was enlarged, particularly the upper lobes. The pericardium contained a small quantity of turbid serum. The visceral layer was covered by yellow lymph, of pasty consistence. There was renal pericarditis. The heart was in a state of dilated hypertrophy; its walls flabby; decolorized fibrinous coagula in its chambers extending into the large vessels. Almost immediately above the aortic valves, calcification of the aorta commenced, extending in patches to the arch, then becoming continuous, so as to convert that portion of the vessel into an almost rigid arc. The liver was somewhat congested; a cyst existed at the lower border of the right lobe, where it was in contact with the kidney. The kidneys exhibited a marked state of degeneration; they contained many cysts of various sizes; the cortical substance was much atrophied; the glandular cells and epithelium of tubuli impacted with fatty and granular matter. Both supra-renal capsules were, apparently, abnormally large, and affected with the same kind of degeneration; in one, however, a marked tumour was seen, while in the other the enlargement was of a more diffused type. Beyond congestion, the remaining organs were in a physiological condition.

MEDICAL SOCIETY OF LONDON.

Dr. Chowne, President.

Mr. Yearsley brought under the notice of the Society a very simple but efficient

MEANS OF INTRODUCING WETTED COTTON INTO THE PASSAGE OF THE EAR, FOR THE IMPROVEMENT OF HEARING.

After alluding to his discovery of the influence of moistened cotton placed in the ear in certain cases of deafness, he remarked that the treatment had always laboured under the disadvantage of necessitating the personal attendance of patients, in order that they might be taught the mode of application. It was impossible by any verbal description to convey such instructions to any unprofessional person, unacquainted with the anatomical structure of the passage of the ear, as would enable him or her to insert the moistened cotton with more than a bare chance of success; consequently, the remedy has been very much restricted in its use. Nevertheless, it was better that such a restriction should have existed than that the patient should have been the victim of, or misled by, inefficient modifications of the original method. No sooner, however, was the account of his new treatment translated into the Paris journals than an adventurer in that metropolis took some cotton, and, with a small phial of pretended medicated water, and a little instrument for introducing the cotton, advertised the apparatus under the attractive title of "eau acoedine." The apparatus was sold indiscriminately to all who applied, for it was carefully concealed from the purchaser that the remedy was applicable only to sufferers from disease of the tympanum, on which point he had so much insisted. But not only of the Paris pretender had he to speak, for in two years from the date of his papers in THE LANCET an artificial membrana tympani was introduced in this country as an original invention, without any admission of what it really was, and is now known to be a mere modification of his method. In like manner, this has been sold indiscriminately to all comers. Of such proceedings he had great reason to complain, for the promulgation of an important principle of treatment had been jeopardized by the constant failure of these deviations from the plan originated by himself. It was with no little satisfaction, therefore, that he had succeeded in devising a method by which patients could scarcely fail to apply the moistened cotton, without professional assistance. The invention consists of a silver tube, of small calibre, from an inch and a half to two inches in length, and a piece of cotton, which is attached to a soft and pliant thread, of two inches in length. The thread is to be drawn through the tube, so as to bring the cotton firmly against its extremity; then, having wetted the cotton in tepid water, it was to be introduced into the passage of the ear, holding the thread and the tube at the same time with the finger and thumb; then the cotton was to be moved about at the bottom of the passage of the ear until it reached a spot which, when touched, produced the improved hearing; this being attained, the thread was to be let go, and the tube gently withdrawn over it, leaving the cotton in the ear; finally, cut off the projecting thread, or turn it into the outer cavity of the ear. Nothing could be more simple than the invention, or more easy of application, and nothing more important than the effect it is intended to produce, for it is no less than the restoration of hearing to a class of persons whose disease, in ordinary phraseology, "loss of the drum of the ear," until the application of the cotton was discovered, was deemed incurable.

MR. WALTON, MR. I. B. BROWN, MR. ROSS, and MR. HARVEY bore testimony to the benefit resulting from the application of moistened cotton to patients under their care.

In answer to a question from MR. HARVEY, MR. YEARSLEY said that he had occasionally seen irritation follow the use of the cotton. The irritation lasted two or three days, and might be attended by some swelling and tenderness of the passage; but these symptoms, as did also the discharge, soon subsided, and the patient experienced unmixed benefit from the application. He had used the artificial tympanum in some cases, but it was more complicated and less efficacious than the moistened cotton.

DR. COLEY related

TWO CASES OF UMBILICAL FISTULA.

The first occurred to a man forty years of age, who, in 1847, was admitted a patient at the Royal Pimlico Dispensary, under his care, with an immense and prominent tumour, which had been forming fourteen years, and extended from the region of the gall-bladder to the navel. A few days after admission the tumour burst, and discharged a large quantity of purulent matter and bile through the umbilicus. This discharge from the fistulous opening continued until his death, which took place at the end of four months after his admission. He had jaundice during the whole of his long illness, and before his death he become much emaciated, and petechiæ appeared on various parts. On examining the body after death, Dr. Coley found the gall-bladder exceedingly distended, thickened, and adherent to the peritoneum, beneath the right rectus abdominis muscle, and containing pus intermixed with cholesterine, with which the ductus communis choledochus was completely obstructed.

The second case was that of an old lady, who consulted him respecting an abscess at the navel. As fluctuation was evident, and the integuments thin and inflamed, he opened the abscess, through which were discharged purulent matter and the *bone of a partridge*, an inch and a half in length, which she recollected having swallowed about seven years before. A fistulous opening remained during several months, but no fæcal matter was discoverable in the discharge. In this case, it appeared that ulceration had been produced in the transverse arch of the colon by the pressure of one of the extremities of the bone, which, in its passage towards the surface, occasioned inflammation and suppuration.

DR. THEOPHILUS THOMPSON read a paper on

EFFECTS PRODUCED ON THE BLOOD BY MENTAL LABOUR.

Dr. Thompson commenced by remarking that the requirements of advanced civilization make increasing claims on the mental and physical energy, as the number of aspirants for distinction multiplies, sympathy becoming more intense, taste more fastidious, competition more keen, and the necessary concentration of mind on any special subject of pursuit involving exhausting effort. Intellectual, like muscular action, probably involves an expenditure of living material, and introduces a changing series of particles, those which have been used giving place to others which come with the energy of new life to perpetuate the action. Stagnation may induce decay, but undue persistency, haste, or intensity, especially in creative efforts, may occasion waste. The author proceeded to adduce examples. One instance was an account-keeper, who, after being for some weeks engaged twelve hours daily at the desk, lost the power of fixing his attention, and became affected with such sensitiveness of the nervous system as to be frequently kept awake at night by tingling of his skin, and, when he fell asleep, disturbed by frightful dreams. There was no emaciation, loss of appetite, or disturbed digestion, and the urine was natural, with the exception of a few oxalate-of-lime crystals; but there was a strong venous hum in the jugular veins, a slight cut bled freely, and the blood under the microscope exhibited a remarkable deficiency of pale corpuscles, the proportion not being more than a fourth of the average in health, or a twentieth of what is common in phthisis. This patient, with better regulated habits, and the use of cod-liver oil and nitro-hydrochloric acid, has rapidly improved. The author observed, that the clergy, being specially exposed to the wear of thought and sympathy, are peculiarly liable to this disordered condition of the blood, their nervous system becoming unduly susceptible, and their minds rendered too easily accessible to the delusions of pseudo-science and quackery. He described the case of a popular clergyman, who, without impairment of digestive or muscular power, became affected with sleeplessness and disturbed continuity of thought, the principal physical symptom being jugular murmur. Nitro-hydrochloric acid, cod-liver oil, and subsequently phosphate of iron, with phosphoric acid, were employed with most satisfactorily results. Dr. Thompson was disposed to think, that the wear of inordinate and anxious work acted as a succession of shocks through the nervous system on the blood, and he illustrated his views by histories of effects produced by sudden and violent shocks, physical and mental, showing that railway collisions occasionally produced results analogous to those depending on intellectual causes, and adducing an instance, from the practice of Sir Henry Marsh, of death from entire change of the condition of the blood, without any other organic disease, induced by the mental shock occasioned in a young lady by having accidentally administered poison to her father. After relating instances illustrative of the exhausting effects of exclusive attention to one object, and remarking on the varying phenomena resulting from differences of temperament, or from association with indigestion and other collateral ailments, the author proceeded to show, that in addition to measures directed to the regulation of the mental habits, medicines calculated to enrich the blood were most important auxiliaries, and that oils could often be employed when chalybeates proved too exciting. The class of cases referred to pointed to the conclusion, that over-work of the brain may often occasion deterioration of the blood before the condition of other organs disturbs the brain. The probably hereditary transmissibility of such conditions makes them of incalculable importance, and happily they are amenable to treatment. The author concluded with remarks on successive changes in the prevailing type of disease. The plethoric condition prevalent in the seventeenth century gave place, in the eighteenth, to gastric congestion. This condition has now ceased to predominate, and we have perhaps entered on an anæmic era, likely, if not corrected, to prove unfavourable to the production of great men. As respects the application of medical theories, a wider range of view should be sought. If the medical art is to render a full share of good to the community, it must be not simply in treating the maladies of individual patients, but by ministering to the conditions which disturb the vitality of the race. Thus, whilst improving our appliances for daily work, remembering that we are enlisted in the service of mankind, we may make posterity our debtors.

A rather discursive discussion of some length followed, in which Dr. Richardson, Mr. Rose, Dr. Camps, Dr. Thudichum, Mr. Clarke, Dr. Hare, Dr. A. Clark, and Dr. Colley, took part.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Mr. Cæsar Hawkins, President.

On the Pathology and Treatment of Bronchial Affections in Infancy and Childhood. By Graily Hewitt, M.D.

In the first part of the paper, the author, after alluding to the difficulties attending the study of chest affections in infancy and childhood, and the errors that are more or less universally prevalent as to the pathology of these affections—errors which he attributed in great part to the indiscriminate transfer of the nosology of disease in adults to that of early life—entered on a description of the pathological conditions of the lung associated with bronchitis and allied affections at this period of life. From a tabular statement of deaths in the metropolis in seven years, it appeared that in the first year of life 22.10 per cent. of the deaths arose from the four following causes:—hooping-cough, influenza, bronchitis, and pneumonia; in the second year, 33.77 per cent; in the third, 28.80 per cent.: these being diseases in which, at this period of life, the lungs exhibited after death more or less the lesion formerly described as lobular pneumonia. These calculations were given to show the extreme importance of any inquiry having for its object the dissemination of correct views as to the manner in which death is caused in a class of diseases so highly fatal to young children. The pathological condition known as "bronchial collapse," was then described, its distinctness from ordinary pneumonia pointed out, as well as the impropriety of the designation "lobular pneumonia," still extensively used in speaking of this lesion. The author contended strongly for the use of the term *apneumatosis*, first applied by Fuche to this airless state of the lung, as tending to the recognition of a condition whose occurrence is to be regarded as one of extreme frequency in all affections involving the bronchial tubes, at this period of life, and the supervention of which he considered to have a very great influence on the fatality of these affections. The fact that true pneumonia is an affection extremely rare in infancy, and that most of the cases described as pneumonia and inflammation of the lungs, at this period of life, are to be regarded as cases of bronchitis in which the apneumatosis existing is thereby induced, were the points most insisted on as having an exceedingly important bearing on the treatment of such affections. The differences between the conditions *atalectasis* and *apneumatosis* were briefly alluded to, the first being a congenital, the second an acquired condition, the lung being in both destitute of air. Having then alluded to the pathology of these affections, and especially the manner in which death is brought about by these pathological alterations, the subject of the treatment adopted was considered. The author contended that pneumonia, in the true sense of the word, being absent, and a condition exceedingly liable to arise which in itself is of a highly-depressing, devitalizing character, the continued administration of medicines, or the adoption of therapeutic measures tending in the same direction—such as depletion to any great extent, or the giving of tartar emetic, as is so commonly the practice in all bronchial and chest affections in children, is to be reprobated, and such treatment is opposed by theoretical and practical considerations. It was contended that the chief object being to prevent death, and death generally occurring owing to the supervention of apneumatosis, our endeavour should be to prevent the occurrence of this lesion. The treatment recommended in mild cases of catarrh or bronchitis, consisted in particular attention to the diet and regimen of the child, the administration of an emetic of ipecacuanha to promote expectoration and removal of mucus, sinapisms, &c. In severer cases threatening apneumatosis, emetics, given however with greater caution, and only when the strength is not reduced, the administration of small doses of ipecacuanha wine at frequent intervals, with or without carbonate of ammonia, as the case may be, and friction of the surface of the chest with sweet oil, frequently repeated; the object of these frictions being to promote the expansion and movements of the chest, the consequent filling of the aircells with air, and the removal of mucus from the tubes; the presence of this mucus, together with imperfect expansion of the chest, being considered as the chief agents in the promotion of apneumatosis. Stimulants were also recommended at this stage of the affection. The experience of the author had led him to think very highly of this plan of treatment, the urgent symptoms having been almost constantly relieved thereby in a very large number of cases which had come under obervation, and in which the above treatment was uniformly pursued.

Dr. Webster agreed with the author as to the frequency and fatality of the affections to which his paper referred. From the Registrar-General's report it would be found that bronchitis stood third in the list of diseases as to its fatal termination. Pneumonia was second. Dr. Hewitt had not referred to the fact of the greater frequency of bronchial affections in boys than girls. He (Dr. Webster) attributed this to the boys' dress causing more exposure than did that of girls. He had, in opposition to the experience of the author, usually found the substance of the lung implicated in cases of bronchial affection. He agreed with the author in many points with respect to the treatment, but did not coincide with him in his condemnation of tartar emetic, which, if given discriminately in the early stages of the disease, when there was hot and dry skin, had no equal. Dr. Hewitt had omitted to mention the warm bath—a most useful auxiliary to the treatment of these diseases. He agreed with him, however, that in the latter stages of the disease, when there was a cold skin and a languid circulation, tartar emetic was dangerous. In the early stages of the disease, bleeding was also necessary, not by leeches, as we could not regulate the quantity of blood taken by them, but by cupping; but bleeding was less necessary now than formerly. Fat, flabby children did not bear bleeding so well as thin and spare ones. The author had omitted all mention of diuretics, which were most useful in bronchial affections. Blisters had been incidentally alluded to in the paper; he (Dr. Webster) had seen them of much service in the early stages of the complaint; but they should be only kept on until the surface becomes reddened.

Dr. Edward Smith asked the author to explain more fully the condition of the apneumatosed lung which was stated to occur so frequently in the bronchitis of infants, and also the mode in which the author conceived that condition to be induced. He understood the author to explain the occurrence by stating that the bronchi were closed by secretion; but in Dr. Smith's opinion, whilst that might prevent the entrance of air to the cells, it would also prevent the exit of air from those organs, and consequently, instead of their becoming emptied of air, they would retain five-sixths (namely, the reserve of the residual air) of the total quantity which the air-cells and bronchi together could hold. Thus in order to account for the absence of air in the air-cells by this mode, he inquired if there was any proof that such enclosed air would be absorbed, and thus permit the air-cells to collapse? He could understand the removal of the air from the air-cells if the secretion was first formed in the air-cells or in the parenchyma of the lung, because then the air would be pressed out from the termination of the tubes containing the air; but if the secretion began in the middle of the air-way, it would block up and retain, and would not remove, all beyond that point. Then, if the air could be thus removed, and the smaller bronchi and air-cells become filled with the secretion, what would there be to distinguish the disease from pneumonia? since it could never be demonstrated that the effusion had not primarily been deposited in the air-cells with, or anterior to, the deposition in the bronchi. Moreover, if by any means this secretion had reached the air-cells and filled the bronchi, in what way is it possible that artificial insufflation by the blowpipe could again fill the cells with air? It appeared to him that, in the cases of the author's apneumatosis as resulting from bronchitis, the state was not one merely of absence of air, but of the presence of effusion; and therefore that, considering the imperfect development of the air-cells in infants, the difference referred to at that period of life and pneumonia in adults could not be far different. Unless it could be proved that the apneumatosis was due to the secretion blocking up the passage through the bronchi and apart from the air-cells, Dr. Smith did not see how emetics could be given mainly with a view to prevent that occurrence, or to remove it if it had occurred.

Dr. Graily Hewitt, in reply to Dr. Webster, remarked, that bronchitis was more fatal in boys than in girls, except where the disease was complicated with hooping-cough, then the reverse was the case. With respect to the co-existence of bronchitis and pneumonia, he admitted its existence, not as pure pneumonia, but as pneumatosis. The question of treatment by tartar emetic was a wide one; he had only laid down general principles in his paper. He had said that in the earlier stages of the disease it might be employed when the patient was robust and strong. The same rule applied to bleeding. He was not against the use of diuretics. He did not object to blisters, except that they interfered with a remedy which he regards as one of more importance. He had omitted to mention the warm bath, which might occasionally be of service. The author believed that apneumatosis was produced by the obstruction the mucus situated in the air-tubes offered to the entry of air into the cells, a weak action of the inspiratory force coexisting. It was easy to imagine how, by a continuance of a process of imperfect inspiration and perfect expiration, the air-cells come to be emptied of their contents. Dr. Hewitt considered the explanation of Dr. Gardner, of Edinburgh, to be correct. According to this the mucus is supposed to act as a kind of ball-valve, allowing the exit of air, but preventing its ingress. The explanation of Fuchs is substantially the same. The author then stated that the air-cells of the apneumatic portions are found in two conditions. In recent pure cases they are perfectly empty; in the second, some of them are enlarged and filled with fluid: the latter condition being observed in chronic cases. The effect of inflation was very striking, and conclusive in the evidence it afforded.

Dr. Cursham had considered, in those cases where the lungs could be easily inflated by a blowpipe, that the condition of lung was congenital.

Dr. Mayo agreed with the author of the paper as to the importance of the occurrence of apneumatosis with bronchitis, and that it might be quickly fatal. He agreed with him also in respect to treatment. He made some remarks on the importance of distinguishing pneumonia from apneumatosis when connected with bronchitis.

Dr. Theophilus Thompson had listened to the paper with interest, and could not but concur in what had been said of its ingenious and philosophical character, but did not think that the practical conclusions to which it pointed could safely be adopted without qualification. Our philosophy required to be tested by daily observation of the results of treatment. He was ready to acknowledge that the author's descriptions might correctly apply to a large class of cases of bronchial affections amongst infants, but there was also a large proportion which the paper did not appear sufficiently to recognise. He (Dr. Thompson) continually saw cases of bronchitis in children presenting points where the crepitation of pneumonia could be heard, or associated with laboured breathing, hot skin, tight pulse, and other febrile symptoms, in which antimony was not only safe but necessary, and where mercury, and even leeching, might be required; and he suspected that some cases which might be included in the author's description assumed an unfavourable aspect in consequence of not being subjected to active treatment at the commencement. The appearances described, might, indeed, in some instances, be attributable to changes in the tissue of the cells and capillary bronchi, induced by inflammation. Doubtless, injury frequently accrued from the protracted use of antimony, but instances were not less frequent in which serious injury was sustained for want of prompt and active treatment at the commencement. He took the opportunity of suggesting that there were cases in which the warm bath, recommended by Dr. Webster, might be inconvenient or objectionable, but a jacket of scalded bran would prove of essential advantage as an auxiliary in the plan of treatment.

Dr. Peacock stated that he could not but think that Dr. Graily Hewitt, in speaking of the dangerous nature of the bronchitic affections of children, had attached too much importance to the occurrence of apneumatosis, or collapse of the lungs, and had in some degree lost sight of the cause upon which that condition depends. He also could not agree with him in the statement, that bronchitis in the adult is always a trivial disease as compared with pneumonia. There is one form of bronchitis—the acute capillary bronchitis—which is not only very fatal, but rapidly induces asphyxia. This is owing to the situation which the inflammation occupies—the mucous membrane of the smaller bronchial tubes—to the tendency of inflammation in one portion of the bronchial mucous membrane to be rapidly diffused over the whole, and to the peculiarly viscid character of the secretion poured out by the mucous membrane of the smaller tubes. The process of aëration is thus greatly embarrassed, not merely in a limited portion of the lung, as in pneumonia, but over the whole lung, and thus the patient rapidly becomes asphyxiated. The peculiarly fatal character of the bronchitis of young children he could not but regard as in part due to the inflammation being seated in the smaller tubes, and to the rapidity with which it became diffused over the whole respiratory mucous membrane. The condition of the lung formerly regarded as the result of pneumonia, but which is correctly described by Dr. Graily Hewitt as apneumatosis, or collapse, was undoubtedly a very serious complaint, but its importance was very greatly enhanced by the inflammation of the mucous membrane generally, with which it was combined, and upon which it was dependent. He also thought that Dr. Graily Hewitt regarded the treatment usually followed in cases of bronchitis in early life as too exclusively antiphlogistic. There were forms and stages of bronchitis in children in which all practical men agreed in employing antiphlogistic treatment, but there were others in which they were equally united in avoiding depressing measures. He thought that the treatment recommended should have been advanced as applicable in some cases, but not so generally as the paper made it appear to be in Dr. Graily Hewitt's opinion.

WESTERN MEDICAL AND SURGICAL SOCIETY.

Mr. William Martyn, V.P., in the Chair.

Dr. Baines introduced the subject of the

TACHE MENINGITIQUE,

with which he stated that he had first become acquainted during his visit to the Hôpital Necker, at Paris. Dr. Trousseau was wont to draw the attention of his pupils to the occurrence of a red mark or stain, which was readily observable on the skin of a large number of hydrocephalic children; to this he gave the name of the "tache meningitique, or tache cerebrale." Dr. Baines then proceeded to describe it as of a reddish colour, varying from a faint tinge to a more vivid raspberry hue. In some cases it has been so distinctly developed, and so readily excited, that the patient's friends have drawn attention to it. Its development may be the result of accident, as when occasioned by the pressure or irritation of the bedclothes or portions of the child's dress, and in those cases it is chiefly observable on the face or neck; but it is more commonly intentionally caused, as by the pressure of the finger of the observer on the skin of the patient. When such is the case, a distinct red line marks the previous course of the finger. It is more readily observable on the face, neck, and chest than in the extremities, and will often fail to be excited in the latter parts, whilst it is most distinct in the former; rarely, however, the reverse is the case. Though most commonly seen in patients suffering from hydrocephalus, it is said to be observed in other cases; and Dr. Baines mentioned one case of acute congestion of the brain, and another of acute pneumonia of children, in both of which this tache was mentioned as existing during life; but in the latter case the brain was healthy after death; the child had died from convulsions. As to the stage of the disease in which it is commonly found, the author thought, from his observations, that it was most likely to be seen late in the disease, and suggested that perhaps it might have reference to the stage of effusion. With regard to its cause, in the present state of our knowledge of its nature, he could scarcely offer any sufficient explanation. He thought that it could hardly be dependent upon any simple atonic relaxation of the capillaries, as occurring in exhausting diseases, because it had been observed in acute congestion of the brain, and in acute pneumonia complicated with convulsions; but suggested that it was due to some altered relation between the supply of nervous power to the capillaries and the circulation, allowing of a ready dilatation of the superficial vessels when any irritation was applied to the skin. Several cases, verified by post-mortem appearances, were narrated, in which the tache was a prominent symptom. In one it was absent altogether, and in another case, which recovered, it continued as long as the symptoms of the disease continued, and then declined with them. It had been noticed also, as proved by the cases cited,—though not necessarily in all such—in head cases dependent upon the irritation of teething and from worms; but what was of some practical value was the fact of its absence in cases of gastric and remittent fever of children, in which the most urgent and prominent symptoms were referred to the head. All the remarks were supported by the cases quoted.

Mr. Ellis then read some notes upon

A PATULOUS STATE OF THE OS UTERI, AND ITS RELATION TO ABORTION.

First remarking upon the frequency of abortion and its effects upon the health of the patients, he alluded to the habit into which the uterus fell of casting off its contents prematurely, and mentioned one case in which the patient aborted twenty-seven times. The causes of abortion may be ovaline or maternal; the latter being impoverished health, leucorrhœa, uterine irritation, or irritation caused from the bladder or the rectum. But he alluded more especially to a patulous state of the os uteri as a cause, in which the proper natural plug from the decidua was absent. In these cases the os uteri was open, and readily allowed the bag of membranes to protrude, and as surely as they did so, so certainly would the uterus be excited to contract. An analogous case was seen where premature labour was induced by the introduction of a piece of sponge into the upper portion of the vagina, and which, by its dilatation, had the effect of opening the os uteri. The causes of this state he considered to result from inflammation and structural changes, and in its treatment recommended rest and the occasional use of nitrate of silver to the patulous os uteri.

Mr. Dickinson then exhibited to the Society

A DEFORMED FŒTUS.

It was about six or seven months of utero-gestation, and had been dead some days before its birth. Both hands and feet were clubbed, and on the abdomen was an external tumour, with apparently the covering of peritoneum, and in communication with the cavity of the abdomen, in which the viscera, or part of them, were contained.

The Society then adjourned.

A Mirror
OF THE PRACTICE OF
MEDICINE AND SURGERY
IN THE
HOSPITALS OF LONDON.

> Nulla est alia pro certo noscendi via, nisi quam plurimas et morborum, et dissectionum historias, tam aliorum proprias, collectas habere et inter se comparare.—Morgagni. *De Sed. et Caus. Morb.* lib. 14. Proœmium.

WESTMINSTER HOSPITAL.

Enchondromatous Tumour weighing thirty pounds, filling the Abdomen and part of the Chest, growing from the left Os Innominatum, attached to the Pelvic Bones and Lumbar Vertebræ, and extending into the Spinal Canal, in a Man, aged thirty-five; post-mortem Appearances.

(Under the care of Mr. Holthouse.)

Tumours of the pelvis offer a wide field for study and research, not the less important because their occurrence is uncommon. They are generally spoken of by writers on midwifery in connexion with their influence on the progress of labour, and although a polypus or an ovarian tumour is now and then seen, growths from the walls of the pelvis or iliac fossa, either true bone or cartilaginous in structure, and attaining a moderate size, are really very seldom presented to our notice. Rare exceptional instances occur, in which the latter spring from the sacrum, or the internal surface of the iliac bones, and as they increase in size, and spread upwards, constitute abdominal tumours. Their diagnosis is, perhaps, more difficult in females, as in them they are likely to be confounded with ovarian enlagements. The only example we can readily refer to is one in Churchill's "Practice of Midwifery," 1842, p. 24, wherein a good representation of osseous growth is given, springing from the promontory and anterior part of the sacrum, and extending upwards into the abdomen. This was in a female. The case we record to-day occurred in a male, aged thirty-five years, whose abdomen contained a large tumour, which sprang from the left iliac bone, grew to an enormous size, involved the sacrum, the lower lumbar vertebra, completely filling the spinal canal, and destroyed life. During life, we had the opportunity of seeing this poor man several times, and it was very difficult indeed to pronounce that the tumour was anything else than osseous, so hard and firm did it feel, without the least elasticity or yielding on very firm pressure. If, however, we remember the rarity of true bony growths from this part of the skeleton, it will help us materially in our diagnosis. Thus Rokitanski mentions:—"With the exception of those osteophytes which form on the pelvis, in consequence of inflammatory processes or caries in the hip-joint, we find hyperostosis but rarely in the pelvic bones."[*] On the other hand, the bones of the pelvis may be affected with adventitious growths, which may equally render the diagnosis difficult. The same pathologist continues—"and cancer occurs in the pelvic bones, not only in the form of primary tumours, which sometimes attain a great magnitude and have an abundant bony skeleton, but also, secondarily, by the advance of cancer from the rectum, uterus, or vagina."

We have, then, cancerous tumours with bony skeletons, and enchondromatous tumours like that in the following case, which would give the physical characters of true bone during the life of the patient. Our diagnosis in such cases will be materially assisted by remembering the extreme rarity of the true bony growth.

One very remarkable fact in this poor man's case was the absence of paralysis, although a part of the spinal canal was completely filled with the same substance of which the tumour was composed. The details of the case do not mention whether the cord was actually obliterated, or very much compressed; we presume, however, it was the latter. The microscopical characters were those of enchondroma in all its stages and conditions, intermixed with a considerable portion of phosphate of lime. The usual situation of this form of tumour, our surgical readers will recollect, is upon or within the bones, generally of the hands; we witnessed a very good example under Mr. Curling's care at the London Hospital in July last, in which the metacarpal bone of the thumb expanded into a hollow tumour the size of a fœtal head, and for which he performed amputation. They not unfrequently have either thin plates or spiculæ of bone shooting through their substance but such were not present in Mr. Holthouse's case, which is one of the most remarkable tumours which it has ever fallen to our lot to record in the pages of our hospital "Mirror."

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[*] Sydenham Society's Transactions, p. 263.

Patrick C——, aged thirty-five, a gas-labourer, of intemperate habits, was admitted into Mark ward, under Mr. Guthrie, Nov, 29th, 1853, with the following symptoms: Acute pain in the left knee and leg, with general wasting of the limb. A tumour was discovered within the abdomen, firmly attached to the left os innominatum, very hard, and about the size of a hen's egg. He remained in the hospital till the 3rd of January, 1854, and was discharged without relief. On the 28th of November, 1854, he was again admitted under Mr. Guthrie: at this time the tumour had increased considerably in size, measuring about six inches in the longitudinal, and four in the transverse direction, and extending upwards towards the diaphragm. The leg was now much swollen, and very painful, so that the patient could obtain no rest at night without opiates; the bowels were obstinately costive, and required the constant use of purgatives. He remained in the hospital this time till the 13th of March, 1855, and was again admitted in the same year, when he remained several months. The last time he sought admission was in January of the present year, (1856,) and he came under the care of Mr. Holthouse during the absence of Mr. Guthrie, the latter part of the summer, and so remained until his death on the 4th of November. His condition during the time Mr. Holthouse attended him was as follows: He was greatly emaciated, and his countenance was expressive of much suffering. He lay constantly somewhat on his left side, his left thigh flexed on his abdomen, and the leg upon the thigh. The foot and ankle were œdematous, he suffered great pain in the limb and in the abdomen, though pressure on the tumour did not increase the pain. His bowels acted generally once a week, but sometimes ten days, or even a fortnight would intervene without his obtaining an evacuation, and purgatives and enemata were required for this purpose. The tumour occupied nearly the whole of the abdominal cavity, but its outline could be felt only on the right side, and it had pushed the intestines over into the right hypochondriac region, where they could be recognised on percussion.

A week or two before his death, a little fluid occupied the abdominal cavity, and gravitated to the left side, where fluctuation was evident on percussion. The tumour was throughout exceedingly hard and firm to the touch, giving to the hand the sensation as if it were bone. At an earlier period a portion of it was lobulated, but latterly it had a more uniform and even surface. Two days before his death, he was attacked with pleurisy on the left side, under which he sank.

Examination, fifteen hours after death.—Great emaciation; no rigor mortis; left foot and ankle œdematous; leg flexed on the thigh, and incapable of extension; thigh bent on the abdomen. On laying open this cavity, all but the right hypochondriac and lumbar regions, which contained the small intestines and ascending colon, were occupied by a large lobulated tumour pushing up the diaphragm, and encroaching a considerable distance into the thoracic cavity, and extending downwards to the floor of the pelvis. Crossing it diagonally from the left hypochondriac to the right iliac region was the descending colon, the sigmoid flexure of which passed over the brim of the pelvis on the right side, and then underneath the tumour, which compressed it to the anus. The aorta and iliac arteries were pushed over to the right side, and so escaped compression. On endeavouring to remove this tumour, which was covered by the peritoneum lining the posterior and lateral wall of the abdomen, on the left side, which it had pushed before it, it was found impossible to detach it, without removing at the same time the three lower lumbar vertebræ, the left half of the sacrum and coccyx, together with a portion of the innominate bone of the same side. The lower ribs, with a considerable portion of the muscular walls of the left side of the abdomen, were so intimately connected with the tumour that they were obliged to be removed with it and dissected off afterwards. On removing all the extraneous portions from it, it was found to weigh 30lbs., and to measure 42 inches in the longitudinal circumference, 25½ in the upper, and 29 in the lower, without the lumbar vertebræ and sacrum. On making a section through it, it exhibited the well-marked characters of an enchondromatous or cartilaginous tumour in process of degeneration. Some portions having the colour and appearance of cartilage, and being of a firm texture, other portions having the same colour, but softer in consistence, resembling colloid cancer, or boiled sago. Interspersed with this were numerous small calcareous masses, containing phosphate as well as carbonate of lime, but no bone. Several large cavities, filled with a thick, reddish-coloured fluid, were also brought into view.

Microscopic Appearances.—The firmer portions of tumour presented all the structural characters of primitive cartilage, without any traces of intercellular fibrous tissue. In other pieces fibrous tissue was more apparent; in some, the walls of the cells appeared to have been blended with the intercellular substance, having only the nuclei visible. The fluid contained in the cavities held in suspension a large number of what appeared to be these nuclei, set free by the breaking of the cells which originally contained them; they were mostly small, somewhat angular and cuboid; but many were elongated and branched, and amongst them were what appeared to be altered blood-discs.

Chest.—Cavity of the left pleura much diminished by the projection of the tumour; recent lymph lined its walls and the surface of the lung. This organ was dark-coloured, condensed, and œdematous, but contained no tubercular or other deposit. Right pleura adherent throughout. Lung crepitant, and free from deposit. Liver, spleen, and kidneys healthy. Left kidney closely, but not structurally, connected with the tumour, but somewhat smaller than the right. On making a vertical section of the four lower lumbar vertebræ, sacrum, and coccyx, the tumour was seen to have extended into the spinal canal, which it completely filled to the extent of two inches, opposite the second and third upper lumbar vertebræ.

A remarkable circumstance connected with this intra-spinal portion of the tumour is, that no paralysis of the right leg was observed during lifetime, and its muscles were as dark-coloured and well-nourished as those of the rest of the body, contrasting strongly with the muscles of the opposite limb, which were pale, wasted, and, in some portions which were submitted to microscopic examination, devoid of the transverse striæ.

LONDON HOSPITAL.

Stone in the Bladder of a Man aged forty-eight Years; Symptoms of Renal Disease, and an attack of acute Cystitis; Alkaline Urine loaded with Phosphates; Lithotomy; extraction of a large Oval Lithic Acid Calculus; Recovery.

(Under the care of Mr. Curling.)

Reflecting upon the many operations we have witnessed for removing stone from the bladder, we do not recollect an instance in which a more unfavourable subject was presented to the notice of the surgeon for the purpose of obtaining relief than the patient whose case we record to day. He was apparently an old man, worn down with misery and suffering, haggard and wrinkled in appearance, almost bent in two from the weight of his misfortunes, and yet his age did not exceed forty-eight. We thought at first that the able surgeon who was about to relieve him of the source of his misery must have made an error in stating his age, but the sequel proved he was correct. He had been an inmate of the hospital two months before, during which time an attack of acute cystitis reduced him to a very low condition, but he somewhat rallied, and was sent into the country to get better health, before active surgical interference. Mr. Curling observed that he did not expect to see him again. On his return, his general health was found to be a little improved, but his life was very miserable, and he was precluded altogether from earning his livelihood. He was anxious to undergo any amount of hazard to obtain relief. In consultation with his colleagues, Mr. Curling determined to remove the stone, although it was a question whether there was not disease of the bladder. The urine contained albumen, but its presence might depend upon other causes than diseased kidneys; it is, however, not uncommon in simple stone in the bladder. He had, besides, neither sickness nor vomiting, nor pain in the loins, and the probability was that the disease was confined to the bladder. The usual lateral operation was performed with the gorget, and an oval-shaped stone was extracted, having for its nucleus oxalate of lime, but principally consisting of lithic acid. A good cure and excellent recovery resulted, which proved the more gratifying as occurring in a seemingly unfavourable case for the operation. It is not stated in the history of the case, but we believe there was no pus in the urine—a diagnostic feature of some importance in these cases.

For the notes of the following case we are indebted to Mr. O. Codrington, the dresser of the patient.

R. S——, aged forty-eight, thin and emaciated, with an anxious countenance, a signal-man in the employ of the Eastern Counties Railway Company, and living at Romford, was admitted on September 22nd, 1856, for the purpose of undergoing the operation of lithotomy.

The patient states that he has suffered from the stone for about three years, and, although he has been under the care of two surgeons, has had but little relief from his sufferings. He noticed that there was sometimes a sudden stop in the flow of his urine, and he sometimes had pain in passing it, or when moving his body quickly. These symptoms increased, and caused great debility, with loss of appetite, and general irritability. He never noticed that his urine was thick, and continued to do his work until May 27th, 1856, when he was admitted an in-patient.

On the patient's admission, Mr. Curling thought of performing lithotrity; but on examination it was not considered advisable to do so, as the stone seemed large, and there were some symptoms of renal disease. Shortly after, he had an attack of acute cystitis, and on July 15th, being much relieved, he went into the country at the advice of Mr. Curling, who offered to operate on him when he was in better health. Although he gained strength during his absence from the hospital, the pain continued the same, and on Sept. 22nd he made application to be admitted to the hospital, urgently desiring to undergo an operation. On becoming an in-patient a second time he was ordered, decoction of pareira brava, with dilute nitric acid and tincture of henbane, and an opium suppository. The urine was at this time alkaline, contained a quantity of phosphates, and an abundant mucous deposit.

Oct. 2nd.—The operation of lithotomy was performed, the patient being placed under the influence of chloroform. A large external incision was made, and the bladder opened with the cutting gorget. There was some difficulty in extracting the calculus, on account of its size and shape. It was a flattened oval, about two inches and a half long by one inch and a half broad, and one inch thick. There was considerable hæmorrhage during the operation, and a ligature was placed on one artery, but the blood still welled up from the deep part of the wound. A large elastic catheter was passed into the bladder through the wound, which was plugged with sponge, and the patient sent to bed. It was necessary to remove the sponge on three occasions during the first few hours, owing to recurrence of hæmorrhage. The patient was much depressed, although opium and wine were given.

3rd.—At twenty minutes to one, sickness came on, which was soon relieved by counter-irritants to the epigastrium, and a little arrow-root and brandy. The urine flowed freely through the catheter and looked healthy.

4th.—The plugs and catheter were removed; the wound looked sloughing.

The patient after this improved rapidly in health, and the wound granulated healthily.

19th.—The patient passed a little urine by the urethra.

21st.—Nearly all the urine passed naturally; is acid; contains no albumen or mucus, and but little phosphates.

25th.—Convalescent.

A section was made of the calculus, which was found to be composed of a nucleus of oxalate of lime, around which was a slight layer of lithate of ammonia, surrounded by numerous layers of lithic acid, and, externally a thin coating of phosphate of lime.

UNIVERSITY COLLEGE HOSPITAL.

Two Forms of Ranula, the Second hitherto Undescribed, existing in the Mylo-Hyoid Space, between the Mylo-Hyoid Muscle and Jaw Bone; Puncture of the latter, with Evacuation of a Pultaceous Substance, like Atheroma, and part of the Cyst; Free Suppuration with very Offensive Odour.

(Under the care of Mr. Erichsen.)

Last week we saw Mr. Erichsen treat an ordinary case of ranula, the size of a filbert, situated at the left side of the base of the tongue, by passing a silken ligature through the tumour. This was followed by an escape of the fluid, which was transparent and of a gelatinous consistence; the two ends of the silk were then tied and allowed to remain in the mouth till the ligature should cut its way out and thus a cure be effected. On reference to the most recent surgical works, it will be found that only one form of ranula is described. This affection is mentioned in Erichsen's "Science and Art of Surgery" as a "globular swelling, semi-transparent, evidently containing fluid, and often attaining the size of a walnut or pigeon's egg, situated under the tongue, pushing this organ upwards and backwards, and consequently interfering with deglutition and speech. The walls of the cyst are usually thin, with small vessels ramifying on them; its contents are *watery* and *serous*. Sometimes *albuminous*, and occasionally *cretaceous* matters are found intermixed, in some instances even in large quantity, as much as half a pound of plastery stuff having been met with in a cyst of this kind." (p. 676.)

The italics are our own, but they are for the purpose of pointing out that, although the contents of these cysts may vary, being generally serous, they are situated under the tongue. This constitutes one form of ranula; we have heard Mr. Erichsen state that there is another, a second form, of which the case we record to-day is an example, differing from the first, by being situated in the mylo-hyoid space lying between the mylo-hyoid muscle and the tongue, and immediately under the mucous membrane of the mouth pushing the frænum towards the left side, and not projecting into the mouth as in the first form, or as tumours do which are in connexion with the sub-lingual glands. Moreover, it presented a prominence externally, the size of an egg, but was not prominent in the floor of the mouth.

This second form of ranula attains a greater magnitude than the first, and consists of a pultaceous, or plastery substance, like atheroma; in fact, its characters very much resemble that substance. The present case, and the two given by Mr. Fergusson in his "Practical Surgery," appear to be the only instances that have been met with, or, at any rate, described, and are exceedingly interesting, more on account of their pathological bearings than their gravity. The first instance given by Mr. Fergusson occurred in a man, aged forty. The tumour in the mylo-hyoid space had been growing for many years; his condition was very distressing, as he could neither close his lips, masticate, nor swallow with comfort, and, without an effort, he could scarcely breathe, excepting through the nostrils. The size of the tumour was that of a large fist, it being situated between the under and front part of the tongue and the base of the lower jaw. "It extended downwards upon the hyoid bone, and projected prominently immediately under the chin; it extended upwards, so as to push the tongue against the soft palate, and fill the mouth; the lower incisors were thrust forward, and slightly separated from each other by the continued and gradually-increasing pressure of the swelling." (Third Edition, p. 599.) An effort was made to evacuate the contents of the cyst by an incision in the mouth, but as it contained a thick curdy material, like atheroma, (similar to the case of Mr. Erichsen's,) and was so firmly imbedded in the sac, it was scooped and squeezed out with considerable difficulty. By means of an incision through the skin, beneath the lower margin of the jaw, this proceeding was much facilitated, and at last completely effected through the two openings, but the thick bag remained. Its removal was, however, accomplished by extending the wound in the mouth, but not without great trouble and much loss of blood. As will be seen, the tumour in this case was larger than in the case recorded to-day, and projected considerably into the floor of the mouth, pushing up the tongue, and producing very serious inconvenience to the patient.

Mr. Fergusson's other case of a similar tumour in the same locality, occurred in a girl aged twenty, admitted into King's College Hospital, under almost similar circumstances. Here he treated the case more like an ordinary abscess, the cyst being opened first by the mouth, and subsequently by the neck, the interior in the meantime having suppurated. Such was the method successfully adopted by Mr. Erichsen, and is well worthy the attention of surgeons, who may happen at one period or another to have similar cases of ranula to treat. We are exceedingly glad of the opportunity of bringing this rare form of the affection before our readers, and have availed ourselves of the notes, taken by Mr. Morgan, the dresser of the patient.

Robert D——, aged eighteen, admitted 23rd June, 1856. Is a native of Dorsetshire, but has lived six years in London. His father, brothers, and sisters are all living and well; his mother died of phthisis at the age of forty-seven. The patient is a strumous-looking subject with light complexion, in the enjoyment of excellent health up to two years ago, when he noticed a small lump beneath the right side of the lower jaw, hard but not painful; it gradually increased in size until it has now attained that of an egg. It apparently disappeared twelve months ago by blistering, but soon returned. On careful examination, there is found in the sub-maxillary space a tumour the size of a large hen's egg, projecting into this space, and seeming next the skin. It projects slightly into the floor of the mouth, lying beneath the mucous membrane, raising that side of the mouth, and as pressure is employed it can be pushed either into the mouth or sub-maxillary space. It is moderately hard, but not fluctuating. A grooved needle was passed into it before admission, by Mr. Marshall, when it was found to consist of a greasy, soft, white, pultaceous substance, like cream-cheese, which could be squeezed out. The microscope showed this to be tesselated epithelium, with large fat cells, fat globules, and cholesterine.

On the 25th of June the patient was brought into the operating theatre. Chloroform was not given. Before doing anything to the tumour, Mr. Erichsen made a few observations to the pupils present, stating his opinion that it was a cyst, being situated above the mylo-hyoid muscle, and between that muscle and the tongue. Tumours situated under the tongue, he observed, generally go under the name of ranula, about the region of the sub-lingual gland, extending from the frænum backwards. In the present instance the frænum is pushed towards the left side. These tumours are generally connected with the sub-lingual glands, but this does not extend into the mouth. The fluid, instead of being glairy and watery, is firm and more or less solid, although it has a soft, doughy feel, situated below the sub-lingual gland in the hollow of the hyoid bone, in the course of the Whartonian duct, and is sunken, not elevated, as in ordinary ranula. The question for consideration, he said, is what is to be done? He did not recollect an instance in this hospital of a tumour of the same sort, possessing the same situation, and containing solid contents like this. Nor do authors describe them. Two or three French writers speak of ranula with solid contents, but situated under the tongue. The only instance he knew of, similar to the present, is one described in Fergusson's "Practical Surgery," with a tumour found in the mylo-hyoid space. An external incision was made, and one through the mouth; the contents of the cyst were got rid of, but much oozing of blood continued for some hours afterwards. Were it not for this circumstance, he (Mr. Erichsen) should have cut through the neck also, but it would have been impossible in that situation to get the cyst out. He would not attempt to remove it from the mylo-hyoid space, but would hold the tongue aside, and cut through the mucous membrane of the mouth behind the sub-maxillary gland, and see if he could enucleate it; if not he would leave an opening communicating with the interior of the cyst, put some lint into it, and allow it to close and contract by a buccal opening in the process of suppuration.

Accordingly, an incision was made, in the manner described, through the mucous membrane over the tumour, parallel to the tongue, by means of a bistoury, and a small teacupful of pultaceous-looking matter was scooped out with the handle of a teaspoon. A portion, but not the whole, of the cyst was pulled out, as it was firmly incorporated with the surrounding structures. The cavity thus formed was then stuffed with lint. The substance removed resembled clotted cream, or cream cheese, similar to the contents of an atheromatous cyst. The operation was followed by a good deal of swelling of the mouth and irritative fever. He was ordered a quinine mixture, and chlorinated lotions for the mouth. The wound was kept open by daily passing the index-finger down to the bottom of the cyst, out of which flowed a yellow pus with very offensive odour.

July 3rd.—An abscess is forming on the outside of the neck, at the seat of the tumour, which was poulticed and opened in a day or so after. The cyst is freely suppurating, and the odour very offensive. Patient has a woebegone aspect.

10th.—The abscess was injected with red wash.

16th.—The swelling is gradually subsiding; general health improving rapidly; parts healing by granulation from the interior of the cyst.

23rd.—Discharged, to be an out-patient; only a few drops of yellow watery fluid exuded from the mouth, which subsequently disappeared, and a perfect cure was established by the 7th of August.

KING'S COLLEGE HOSPITAL.

A new Anæsthetic Agent, introduced by Dr. Snow, named "Amylene;" semi-consciousness, but complete insensibility to Pain in several Cases; absence of Sickness.

(Under the care of Mr. Fergusson and Mr. Bowman.)

On Saturday, the 13th inst., a new anæsthetic agent, named "amylene," was administered by Dr. Snow in some operations performed by Mr. Fergusson and Mr. Bowman in this hospital. The operations consisted of the removal of diseased glands from the groin in one case, an operation for fungus of the testicle, and two cases of tenotomy, in one of which forcible extension of the partially anchylosed knee-joint was made. The pain was entirely prevented in each of the cases, although neither complete stupor nor relaxation of the muscles was produced. The patients seemed in a state of semi-consciousness during the greater part of the time; they recovered very promptly from the effects of the vapour, and there was no sickness in either of the cases, nor yet, as we were informed, in nine previous cases where Dr. Snow had administered amylene in the hospital, prior to the extraction of teeth by Mr. S. Cartwright. The amylene was prepared for Dr. Snow by Mr. Bullock, and was applied with his usual chloroform inhaler.

Mr. Fergusson, in his remarks after the operations, gave the following particulars, with which he said Dr. Snow had furnished him, respecting amylene:—Amylene is made by distilling fusel oil with chloride of zinc. Its composition is $C_{10}H_{10}$. It is a very light and volatile liquid, being only two-thirds as heavy as water, and boiling at 102° Fahr. The vapour is much less pungent than that of chloroform, although the patient breathes it in much larger quantity. It was first discovered by Cahours, a French chemist, about fifteen years ago.

ST. BARTHOLOMEW'S HOSPITAL.

Encysted Tumour over the Parotid Gland, commencing nine Years ago; the external Jugular Vein coursing over its posterior Margin; successful Removal.

(Under the care of Mr. SKEY.)

IN a future number we purpose continuing the series of cases of tumours, especially of the neck, which we have lately been giving. On the present occasion, we record an instance of the encysted variety, which we saw removed this day fortnight, attended with some difficulty, and the exercise of much patience, on account of troublesome hæmorrhage from the external jugular vein which ran across the tumour. The cavity remaining after it was extirpated seemed to be large, but the operation was completely successful, and the patient has gone on without any bad symptom. On examining the cyst, its internal surface was rough and irregular, resembled somewhat decolorized fibrine, and smelt offensive, its contents having suppurated. As a former operation had been performed, and the tumour was again becoming troublesome, Mr. Skey very properly removed it.

We are indebted to Mr. F. W. Skey, house-surgeon to the hospital, for the following notes taken by the dresser of the patient:—

Alfred W——, aged thirty-five, was admitted into Harley ward, on December 4th, with a large tumour, situated over the left ramus of the lower jaw, extending also below the jaw, over the carotid artery. There was no doubt as to the nature of the tumour; for although there was considerable thickening, yet fluid was easily detectible. On the posterior margin of this tumour (over the neck) ran the external jugular vein, which, when compressed, was as large as the little finger, and which was joined by another large vein crossing the tumour.

History.—His first recollection of it is some nine years ago (having a faint notion of being struck then). The swelling was then about the size of a walnut, just under the ear. It gradually enlarged for some years, when it had attained the size of a man's fist. He then (two years ago) went into Guy's Hospital, where an operation was performed, but of what nature he is not certain. However, the tumour formed again, and became as large as ever; and at the present date, two years after the first operation, he was admitted into Harley ward, under Mr. Skey, with the above-mentioned symptoms.

Dec. 13th.—Having been put under the influence of chloroform, Mr. Skey removed the tumour, notwithstanding the presence of a double obstacle. There was great hæmorrhage from the external jugular vein and several small arteries which were unavoidably wounded; and, moreover, from his vomiting of large portions of undigested and unmasticated food, there was the additional danger of suffocation. The man had eaten a mutton-chop four hours before the operation, and most probably extreme nervousness prevented its digestion.

Since the operation, the patient has progressed most satisfactorily; he has not had a bad symptom. The wound was, for the first twenty-four hours, plugged with a large mass of cotton-wool: since then, with a small strip of oiled lint, and is now fast closing up in the progress of healing.

ROYAL FREE HOSPITAL.

Fatty Tumour, the size of a Pigeon's Egg, situated beneath the Zygoma, over the Muscles of the Cheek, contiguous to the Parotid Gland, and projecting into the Mouth; successful Removal.

(Under the care of Mr. F. J. GANT.)

THE chief interest in the following case consists in the rather unusual seat of the tumour, which was fatty, and remarkably firm and solid for one of these growths, a peculiarity which is now and then observed. No part of the body, however, seems to possess any special immunity from the presence of lipoma, for every time we see an example of this kind of tumour removed, it seems to occupy some fresh situation. One of the last was a large example, occurring in the loins of a child, under Mr. Pollock's care, at St. George's Hospital, the particulars of which we may give hereafter, more especially as it is one of some value in a diagnostic point of view.

About a fortnight ago we were present at St. George's when Mr. Tatum removed a fibro-plastic tumour, the size of an orange, from the right cheek of an old woman, in a situation somewhat similar to that in Mr. Gant's case, only a little more anteriorly. In Mr. Tatum's case it had been slowly growing for seven years, and had nothing malignant about its appearance, nor did it involve any of the structures of the cheek. It felt somewhat elastic, as if containing fluid, but nothing was evacuated on passing a grooved needle; it was easily dissected out, and proved to be fibro-plastic, a form of growth as innocent as a fatty tumour.

John M'A——, aged thirty-nine, admitted September 19th, 1856. He stated that two years and three months since, he observed a small pimple on his right cheek, which broke, but never disappeared, and had since slowly increased in size. On admission, a tumour was apparent, about the size and shape of a pigeon's egg, semi-elastic, lobulated, painless, and tolerably moveable under the skin, but fixed in its bed below the right zygoma, where it lay on the masseter muscle, extending anteriorly slightly over the buccinator muscle, posteriorly and inferiorly to the margin of the ramus of the jaw, where it was contiguous to, but not apparently continuous with, the parotid gland. The skin over and surrounding the tumour was tense and stretched, and tolerably adherent, but not discoloured or otherwise unsound. On opening the mouth, the anterior portion of the tumour could be both seen and felt, projecting into that cavity, and against the upper molar teeth.

From the preceding description it was concluded that the tumour was not malignant, and at first it was regarded as an enlargement of the socia parotidis; but, although so closely contiguous to the parotid, it did not seem a portion of it. From this circumstance, together with its elasticity without fluctuation and lobulated character, Mr. Gant concluded it was a fatty tumour, although certainly in an unusual situation. Indeed, from its obvious relation to adjacent and important parts visible externally, and those, moreover, which might be disclosed during an operation, he hesitated to propose its removal; but, on the other hand, considering the size which the tumour had already attained in two years and three months, and that with its further enlargement it must ultimately encroach still more on the parotid, so as to render its extirpation difficult, if not altogether impracticable, he resolved, with the consent of the patient and his relatives, on performing the operation.

On September 19th, chloroform having been administered by Mr. Jenkins, the house-surgeon, an incision was made across the tumour, and the skin reflected off. The tumour was imbedded very firmly. It was detached from the buccinator, the fibres of which were separated underneath, so that here the mucous membrane alone intervened between the tumour and the cavity of the mouth. By carefully using the scalpel, it was detached from the socia parotidis, and, by keeping close to the tumour, the parotid duct was avoided, as well as the transverse facial artery and nerves; more posteriorly, the tumour was overlapped by the parotid, but did not extend under the ramus of the jaw. But little hæmorrhage occurred, only one ligature to a small vessel being required. A few stitches sufficed to bring the edges of skin into contact, and water-dressing was applied. The tumour was removed entire, but without any portion of the surrounding parts. Mr. Paget, to whom Mr. Gant showed it, had no doubt of its being a fatty tumour, although firm from an unusual amount of cellular tissue being intermixed. Nothing untoward followed the operation.

Sept. 20th.—The man had slept well; there is some tenderness in the situation of the tumour, and slight puriform discharge.

22nd.—Mr. Turtle, house-surgeon, removed three sutures easily, union by first intention taking place.

27th.—Union nearly complete throughout the line of incision.

Oct. 4th.—Discharged, cured.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON.

Chronic Bronchitis, with suspicion of Phthisis; Expectoration of Small Masses, compared to Bits of Coral from their Hardness, probably composed of Cholesterine.

(Under the care of Dr. Edward Smith.)

Dr. Smith has recently met with additional cases of expectoration of small, dry, hard masses, compared by the patients to bits of coral on account of their hardness. The occurrence is attended with circumstances of interest in relation to the nature of the case, and the formation of the expectoration of tuberculous matter. The following case may be taken as a type of many others.

E. L——, of French origin, and a native of Jersey, aged twenty-five, single, of spare habit, not given to intemperance, and by trade an upholsterer. The hereditary tendency to phthisis is only evinced by the death of three uncles on the father's side. The disease began, four years and a half ago, with violent cough, and an attack of inflammation, which confined him to his bed for five weeks. He soon afterwards again took cold, and was ill for nine weeks; and, from the commencement to the present time, he has been subject to relapses enduring for several weeks, and of a severe inflammatory character. During the last year he has been better than in former years. Three years ago he first noticed hæmoptysis, and he since observed it in small quantities on many occasions. There is constant cough to a moderate extent; but the leading symptom is dyspnœa, which occurs in paroxysms of intensity, and at various intervals. The square shoulder and general conformation of the chest indicate chronic spasmodic bronchitis, and the respiratory sounds, as heard at a distance, with the character of the cough and dyspnœa, all lead to the same belief. He is able to walk about, but he must walk deliberately, and on any exertion the dyspnœa is instantly increased. The expectoration is considerable, unusually frothy, but at intervals of uncertain duration; one little mass (and even more than one at a time) appears as a small white point in the glairy or opaque secretion, and is found to be very hard to the pressure of the finger, and resisting atmospheric influences. The physical examination shows a very slight dulness on the right clavicle, with harsh respiration, prolonged expiration, mucous and shrill sibilant râles universally on both lungs. No spot of softening can be defined, and no cavity exists. The general health is tolerable, and the appetite is good. Thus whilst the frequent hæmoptysis, with some hereditary taint, in some degree points to phthisis, the existing signs and symptoms, the progress of the case, and the frequent attacks of inflammation, with great dyspnœa, all tend irresistibly to the conclusion that the case is one rather of bronchitis than of phthisis. The case was examined by one of Dr. Smith's colleagues, and to neither was the precise state of the lungs perfectly evident. The evidences of phthisis were exceedingly small; but whilst it was manifestly a case of bronchitis, it seemed also to be something more.

It was, however, certain that no cavity existed, and although it would be very difficult to diagnose a small patch of tubercular softening in the midst of so much bronchial disease, it was probable that none existed. Hence what can be the immediate source of these hard masses? Their size precludes the possibility of their extrusion from the air-cells without destruction of the walls of those organs; so that, if it be assumed that they were formed there, it must also be assumed that at least so much destruction of tissue had occurred as should involve a bronchial tube of a larger size than those terminating directly in the intercellular passages. But in support of this assumption the case offers no evidence. Moreover, if such hardened masses proceeded from the débris of tubercular deposit, whether in the degree of softening only or in that of a cavity, it would be difficult to say why they should not have been liquefied in common with the mass, and also why they should be so infrequently met with in so frequent a condition as that of tuberculosis of the lung. It is also curious that in this case the expectoration of them occurred only at intervals, and these when inflammatory action was present, and that only one little mass would appear at a time, and only three or four during an attack of many weeks' duration. There was no cell development perceptible under the microscope, even with the assistance of acetic acid, and there was no reaction in the application of the acid. They consisted of cholesterine, probably, in plates and in masses, breaking up into irregular shaped particles.

QUEEN'S HOSPITAL, BIRMINGHAM.

Case of diffused Traumatic Aneurism following a Wound of the Palmar Arch, successfully treated by Compression of Brachial Artery.

(Under the care of Langston Parker, Esq., F.R.C.S.)

(*Reported with remarks by* J. F. West, Esq., House-Surgeon of the Queen's Hospital, Birmingham.)

Betsy Y——, aged nineteen, a healthy, florid servant girl, residing in the country, was admitted on the 24th of September last. She states that she received a severe laceration of the left hand, on the 12th September, in consequence of the bursting of a porter-bottle which she was uncorking. She lost some blood at the time, but pressure soon arrested the flow, and she experienced no further trouble from the hand till the 22nd, when she first noticed a pulsating swelling between the thumb and forefinger. This swelling increased in size, and became more painful, until the morning of the 24th, when violent hæmorrhage from the part took place, and she continued to lose blood till she came to the hospital, when by means of a graduated compress the hæmorrhage was arrested. The wound extended irregularly across the hand, from the ball of the thumb to the base of the third finger. Towards the latter point it appeared to be filling with granulations; but the parts between the thumb and first finger looked torn, ragged, discoloured, and unhealthy.

Sept. 26th.—There has been no return of the bleeding, and the wound appears to be healing. The fingers are flexed upon the palm, and any attempt to straighten them produces pain along the arm in the course of the radial and ulnar nerves. There is distinct throbbing and slight fulness between the forefinger and thumb.

28th.—The swelling increases in size, having now attained that of a marble, and the pulsation is more evident, the collection of blood being only covered by a bluish thin cicatrix. Pulsation in the tumour was checked by the application of small pads of wood enclosed in lint in the course of the radial and ulnar arteries, just above the wrist.

29th.—Swelling becomes larger. The fingers are cold and numbed, and the hand is a little painful and swollen in consequence of the pressure exerted on the arteries; the pads were therefore removed for an hour, and then reapplied.

30th.—Finding the tumour increased in size, so as to be as large as a pullet's egg, with the cicatrix apparently on the point of giving way from the constant outward pressure of the blood, and the pain and throbbing so intense as to be almost unbearable, Mr. Parker ordered a branch tourniquet to be applied over the brachial artery, the arm being first extended on a large soft pillow and carefully bandaged.

Oct. 1st.—Two a.m.: The pressure of the tourniquet could be endured no longer, so it was removed, and the compresses again applied to the radial and ulnar arteries. Ordered, soap and opium pill, five grains, immediately.—Nine a.m.: Has slept since taking the pill. The tumour is of the same magnitude, and throbs as much as ever. A branch tourniquet to be applied over the brachial artery, its position being changed to the forearm, so as to command the radial and ulnar arteries, as soon as it produces pain. Repeat pill.

2nd.—The tumour feels more flaccid and the throbbing less marked. The tourniquet is well borne, very slight swelling or inconvenience being produced.

3rd.—Sleeps but little. The size of the tumour appears the same, but its walls are thicker and the pulsation duller. Ordered nitrate of potassa, one drachm; tincture of digitalis, one drachm; water, eight ounces; two tablespoonfuls three times a day.

4th.—The tourniquet has not been removed for three days, but slight inconvenience or tumefaction being experienced.

5th.—The arm is painful and rather swollen; scarcely any throbbing is perceptible in the tumour. A straight splint applied along the back of the arm, with the view of relieving the inconvenience caused by the posterior pad, appeared to give considerable relief. The position of the tourniquet to be changed more frequently.

6th.—Tumour is less tender, and no pulsation can be felt in it. The tourniquet is to be still applied, but in such a manner as to command the circulation in a very moderate degree.

9th.—Tumour is diminished in size, and is softer. The whole extent of the incision is now cicatrized. When the hand becomes hot and painful, cold water is applied to it, and this seldom fails to give relief. Continue the compression.

12th.—There has been a slight oozing of bloody serum (it can scarcely be called blood) from the inner extremity of the wound in the palm during the night. The tumour is much smaller and softer, being now but slightly elevated above the surface. A lint compress to be applied to the palm, and the tourniquet to be tightened a little.

13th.—No oozing, pain, or throbbing, and swelling is almost gone. The tourniquet to be removed altogether.

16th.—She has gone on very well till to-day, when slight oozing again occurred from the palm of the hand. Attempts had been made to straighten the fingers. Reapply tourniquet.

20th.—Going on well. No more oozing, and very little pain or sense of throbbing.

23rd.—All pulsation in the tumour has disappeared for the last two days, and the cicatrix now looks firm and solid. Discontinue tourniquet.

25th.—The pulsation has returned, in consequence of attempts having been made again to move the fingers from their flexed position.

29th.—All pain, throbbing, and uneasiness are now absent. The tumour is quite gone, and the surface of the palm is sound. Tourniquet finally discontinued.

Nov. 10th.—She can now use her fingers much better; suffers no pain nor discomfort from the palm, and being in all respects well, was discharged cured.

Remarks.—This case is somewhat interesting as illustrative of the beneficial effects of the treatment by compression of a form of aneurism to which it has not, up to the present time, been often applied: and it is also suggestive of a safer and more effectual method of treating wounds of the palmar arch than any that has hitherto been adopted. The course usually recommended in such cases is to make an effort to secure the vessel at the seat of injury: if this be impossible, to ligature the radial and ulnar arteries, and should hæmorrhage still occur through the anastomosis of the deep interrosseal arteries in the palm, to place a ligature on the brachial artery.

The great success which has followed the use of compression in the treatment of aneurism, induced Mr. Parker to try its effects in wounds of the palmar arch; and in two cases of this sort which have come under treatment, the best results have been obtained. In the first case, the wound had been inflicted by a glass bottle, and serious hæmorrhage had ensued from it, not only at the time of the receipt of the injury, but also subsequently to it. A surgeon in the country had tied the radial and ulnar arteries, but the hæmorrhage still recurring, the man was brought to the hospital. The tourniquet was applied to the brachia artery, and compression kept up for nine days During that time the wound in the palm healed, the hand became perfectly sound, and no further hæmorrhage at any time took place. In the case which I have given *in extenso*, a somewhat similar accident had taken place; but the progress of the case was different. Instead of the wound remaining open and continuing to bleed, it closed, and a traumatic aneurism formed in the situation of the wound. Direct pressure on the radial and ulnar arteries was tried; but though the circulation through them was arrested, the tumour still continued to increase in size, and the distension became so great as to threaten sloughing of its coverings. The question of ligature of the arteries of the forearm now arose; but judging from the want of success which attended that operation in the last case, such a proceeding was thought inexpedient. The choice, therefore, lay between ligature of the brachial and compression of that vessel to such an extent as to moderate the flow of blood through it, and thereby to accomplish what Dr. Bellingham gives as the true aim of this plan of treatment for the cure of aneurism—viz., to obtain "the gradual deposition of the fibrine of the blood in the sac, until the latter (the sac) and the artery at the part are completely filled." This object was obtained by the steady maintenance of compression for fourteen days consecutively, and its further use at intervals for another fortnight. The advantages which this mode of treatment of wounds of the palmar arch offers, are very considerable: the risk is absolutely *nil* compared with that which attends ligature of one or more of the arteries of the limb; the danger of secondary hæmorrhage is avoided; an operation, the very mention of which is always received with dread by any patient, is avoided; and, lastly, the pain produced by this plan of treatment is very trifling, (in the case in hand it could hardly be said to be felt at all after the first four days,) and the inconvenience produced by constant pressure upon one part may be obviated, as it was in this instance, by shifting the position of the tourniquet in the course of the artery, or even by applying it to the radial and ulnar arteries in various parts of the forearm.

The chief points to be attended to in the treatment of these cases, appear to be that the patient should be kept as quiet as possible, and that pain and irritability should be diminished by the use of sedatives, as opium and digitalis; that the arm should be kept extended on a splint, for two reasons; in the first place, because by means of it the patient is much better able to keep the arm at rest; and, in the second place, because it greatly diminishes the risk of the tourniquet slipping from its position. Bandaging the arm, and applying cold water or evaporating lotions to it, appear to be useful auxiliaries; and, lastly, the pressure should be regulated so that it does not completely obstruct the flow of blood at the point where the tourniquet is applied; and the position of the instrument should be changed occasionally, so as to prevent the pain and inconvenience which must be produced by long-continued pressure on any particular point.

Medical Annotations.

"Ne quid nimis."

The introduction of horse-eating by M. Geoffroy St. Hilaire has proved so successful that a rival society has been recently formed in Paris. Its members meet once a week to banquet on asses' flesh, and report that it excels in flavour all other kinds of animal food. Surely the poor ass is entitled to the same protection as his humble companion, the mongrel; for it is written, that "dog does not eat dog." If the wives of these roysterers are admitted to taste of the luxuries of the donkey-*carte*, it is hoped that they will never wake, like Titania, exclaiming, "Methought I was enamoured of an ass."

Whilst the Society for the Diffusion of Useful Knowledge is nobly doing its work, it is "a sorry sight" to see another society—the Worshipful Company of Stationers—degrading themselves by diffusing such miserable trash, miscalled prophetic, as, year after year, appears in the Almanack of Francis Moore, physician; the impudent assumption of which title might surely be prohibited by the College of Physicians. It seems, however, a growing fault of modern literature to exclusively consider what people will read or what they will buy (*quocunque modo rem*), without pausing to reflect on the evil influence that may be produced by the highly-spiced literary articles supplied for "human nature's daily food." In illustration of this may be mentioned, the recent publication, in two respectable magazines, of several consecutive articles, on the reputed custom of "arsenic-eating" amongst the Styrians. An unwholesome interest being excited by describing the alleged effects of the habit in enhancing the beauty of women, producing *embonpoint*, and giving brilliancy to the eye, various statements of recent authors on the subject are commented on, and conclusions drawn in that loose and dangerous way which distinguishes non-professional pens intruding on the domains of medical science.

No possible good can, and much probable evil might, result from directing public attention to such a subject, described in such a manner. Even the lives of weak-minded and vain readers might be jeopardised by the perusal of these descriptions of the effects of this so-called "arsenic-eating;" for there is enough of the old Eve existing in her descendants to render tempting the forbidden knowledge of good and evil. Dr. Inman, in a very eloquent address, recently delivered before the members of the Liverpool Literary and Philosophical Society, thoroughly exposed the fallacy of these statements about the habit of eating arsenic. He pointed out how the swelling of the face, which the lank Styrian may consider a beauty, and that appearance of the eye which he calls brilliancy, and we name irritation, are exactly the signs that prove the poisonous effects of the drug, and give warning that persistence in its use would entail certain death. He showed how fallacious were the statements as to the quantity taken, and how utterly false was the assertion that any one ever habitually took two grains of arsenic a day. He, moreover, made the judicious and forcible remark, that "all experience at home shows arsenic to be a deadly poison, which the system can never be brought to tolerate; that it is deleterious alike to animals and men, producing *in all* the same effects; and as our observations have already extended over a greater number of persons than there are adult peasants in Styria, the judicious observer ought to pause before he accepts so strange a departure from what he believed to be true." And, in corroboration of this, Dr. Taylor definitively states that "there is no proof that any human being has ever accustomed himself by habit to take arsenic in doses that would prove poisonous to the generality of adults."

It behoves journalists and magazine-writers to remember that, in undertaking to guide and inform their readers, they assume a responsibility which should be exercised with the greatest caution. As an instance of the baneful extent to which a want of this consideration is carried, we may cite certain statements made in a recent number of the *New York Tribune* by a correspondent, who loosely reports, on the authority of a French consul in China, that "the natives mingle arsenic with their smoking tobacco, and that in some provinces tobacco free from arsenic is not sold. The same witness asserts that the arsenic-smokers were stout fellows, with lungs like a blacksmith's bellows, and rosy as cherubs." Every evil resulting from the insertion of statements such as these—whose only purpose is evidently to excite a morbid interest and attract the attention of the uninformed—forms a weapon for the hands of the enemies of a free and unfettered press.

The trustees of the Southern Hospital, at Liverpool, have wisely adopted a proposition made by the medical men of the institution, that, in future, the election of officers shall be solely guided by the merits of the candidates. It will be greatly to the benefit of public hospitals if this plan be generally adopted. At present it is too frequently not the best man but the most active canvasser who succeeds. Many a most desirable officer is thus lost, because he is unwilling or unable to undertake the labour, or afford the expense, of humbly soliciting from individual voters their "most sweet voices;" and would, like Coriolanus,

"Rather than fool it so,
Let the high office and the honour go
To one that would do thus."

CREDULITY, which treats its marvels like a child its toys, has been some time a-gape for a new wonder, having tired of all its former playthings. Even the most gullible are become too clearsighted to credit *clairvoyance*, and the talking tables are now scarce thought worth a rap. Indeed we question if a genuine one, made out of the original talking oaks of Dodona, would command an audience; but alas; we forget that

"E'en in Greece—her native Greece—
The Sylvan nymph is dumb:
From ash, and beech, and aged oak,
No classic whispers come."

Our ingenious Transatlantic brethren have—just in the nick of time—hit upon a scientific discovery more marvellous than even mesmerism or spirit-rapping, and which leaves the talking tables not a leg to stand on. This new wonder is going the round of the Canadian papers, having originated at Rochester, N. Y., where the experiments are stated to have been performed by C. P. Sandford, M. D., and Thomas Bellamy, M. D., by whom the report is drawn up, and whose signatures are appended thereto with all due formality; like those of the justices and honest wives to the ballads of Autolycus.

It seems (though we never heard of it) the English have been asserting that the eye of a murdered man, properly coaxed, will reveal the object on which it last rested. The report informs us that this experiment was therefore tried on the eye of an unfortunate man lately murdered in America. The eye was separated from the head, and treated with atropine. The pupil thereupon dilated, and by a powerful lens there was "discovered in the pupil the rude worn-away figure of a man with a light coat" and other attributes! "The remainder," continues the report with bewildering physiological fogginess, "was *débris*, evidently lost from the destruction of the optic nerve, and its separation from the mother brain. Had the operation been performed when the eye was in its socket, there is not the least doubt that the last idea and impression made on the mind's eye of the unfortunate man would have been detected, and perhaps the contour and the exact figure of the murderer."

All this is, of course, a farrago of absurd nonsense. Yet, with the names (real or fictitious) of two M.D.'s appended, it is undoubtedly credited by many of the readers of the numerous papers which have inserted it. Moreover, as it is not a whit more absurd than many statements made by voluble criminal barristers anent scientific matters, medical witnesses may expect to be asked their opinions about it (and probably be bullied for discrediting the story) when the next trial for murder occurs.

THE late war afforded such abundant proof of the usefulness of a distinct Medical Staff corps, that the authorities have determined to make its existence permanent. The number of hospital orderlies and nurses is to be increased to 1800. Ten men are to be attached to each regiment at home and abroad: of these, 100 have already volunteered from the several depôts. As many of these men are married, there can be no reason why their wives (if without children and of suitable character) should not also be employed in those many offices ministering to the comfort of the sick, which the most adept of the male nurses can only awkwardly perform.

THE Dentists are proceeding very cautiously, and with great judgment, in their endeavours to raise the character of the profession to which they belong. They are about to hold another meeting for the election of officers and passing of bye-laws. In the meantime, they have given an outline of their intentions by circulars forwarded to those who respectably pursue their calling. Therein it is declared that any chicanery or imposition shall disqualify persons so acting from being members of the Association, and that in glaring cases they will proceed against any one calling himself a dentist without a fitting qualification. If they are true to themselves, they can hardly fail to accomplish their laudable object, but the reformers should specially guard against any dissension. Let them adopt a forceps for their device, with the motto "Pull together."

IT is a great reproach to our much vaunted English common sense, that those who wish to thoroughly and practically attain a knowledge of anatomy, are often driven to Paris or other continental schools. In England, the expense of oft-repeated dissections deters many, and the impossibility of obtaining a sufficient supply of subjects hinders more, from ever gaining that deeply-ingrained knowledge of anatomy so essential to successful practice. The same "society" which expects us to devote the greater part of our lives, and the most valuable portions of our time, to gratuitous attendance on the sick, readily listens to and supports every ignorant prejudice which folly or affectation can devise to deprive us of the means of obtaining that knowledge which forms the foundation of our art. The charlatan, ignoring anatomy and learning, has his filthy trash protected by a Government stamp. He may post his bills on the very walls of the temple of science, and use the "divine afflatus" for his puffs. He may blow his own trumpet, to delude those who, deceived by him, will hear nothing more till the last trump sounds, and he is fostered and protected; while a deaf ear is turned to every solicitation for additional means of acquiring correct knowledge and obtaining information for the benefit of the sick and the alleviation of disease. To such an absurd extent is this carried, that even criminals who die whilst expiating their ill deeds are carefully buried, as at Woolwich, in a graveyard of their own, and, after lives of wrong-doing, are not even allowed to benefit their fellow-creatures when they are dead.

A belief in the existence of some antidote to "th' envenom'd sting" exists in all countries where poisonous snakes abound. Bruce states that the Arabs possess a knowledge of certain roots, which, when chewed and aided by an external use of the infusion, protects them from injury by venomous reptiles. The American aborigines place great efficacy in the use of some half-dozen plants, and according to Silliman, carry their credulity so far as to believe that even the smell of the leaves of the *Fraxinus Americana* (or white ash) is intolerable to the rattlesnake. Several of these reputed antidotes have been examined and found altogether inefficacious. In other instances botanists have not yet precisely determined the plant to which the natives refer. The Guaco or Huaco is one of these. It has been dubbed with the name of *Eupatorium Mikiana*, and specimens found by the Magdalena were called *Mikiana Guaco* by Humboldt and Bonpland. But a specimen recently obtained from the natives at Honduras presents many of the characters of the Serpentariæ. The Society of Arts held a meeting last week to test the virtues, preventive and curative, of this new plant. By special request of several distinguished persons, two puff-adders from the Zoological Gardens kindly consented to appear, for this occasion only, as first and second murderers. A rabbit, after swallowing a dose of the infusion, was submitted to their notice, was duly bitten, and provokingly died; its mouth being so firmly clenched that a fair dose of the tincture of the plant could not be administered. The experiments are to be repeated. Whether successful or not, it is very creditable to the Society of Arts that they have undertaken this investigation, now that railways in India and elsewhere are stretching their long arms through jungles and thick forests hitherto only inhabited by "creeping things that revel in their spoil." The discovery of an unfailing antidote may thus save thousands of lives. If the first experiments fail, we hope they will not be disheartened, remembering the line of Lactantius—

> "Primus sapientiæ gradus est falsa intelligere."

We trust, moreover, that members of our profession residing in snake-infested districts will aid in the research by forwarding any information they may obtain.

Miscellaneous Correspondence.

THE RATIONALE OF THE FATAL TENDENCY OF THE WARM BATH IN ASPHYXIA.

By Marshall Hall, M.D., F.R.S., &c.

To the Editor of The Lancet.

Sir,—There is a physiological relation between the circulation and the respiration, any deviation from which, in either direction, is of a fatal tendency.

During the systemic (not the pulmonic) circulation, carbonic acid is formed; in respiration, the oxygen necessary for the formation of this carbonic acid is supplied, and the carbonic acid so formed is evolved from the system.

The immediate baneful effects of the suspension of respiration arise from the privation of oxygen, and from the retention of the carbonic acid previously formed, which becomes a blood-poison.

An animal placed in perfectly *pure nitrogen* or *hydrogen* gas dies in violent convulsions instantly. And this is doubtless owing to the privation of oxygen, for carbonic acid might be exhaled into nitrogen or hydrogen gas.

But an animal dies also in air consisting of such a proportion of *carbonic acid with oxygen* as to prevent the evolution of carbonic acid from the blood, although the quantity of oxygen might be so great that a taper blown out, and burning only as a *spark*, would be instantly kindled into *flame*.

If, without producing effects so sudden as those described, we change the relative proportion of the respiration and the circulation, morbid phenomena are produced special to each case. If the circulation be disproportionately augmented, carbonic acid is formed, and being morbidly retained, slighter convulsion and slower death ensue. If the respiration is unduly and disproportionately augmented, the animal is *cooled;* for mere *pulmonary* respiration is a cooling process, by the difference of temperature of this *inspired* and *expired* air, and in this case also the animal dies, but now from loss of temperature.

This latter is the case in the asphyxiated patient, if the respiratory movements be unduly hastened—that is, disproportionately to the rapidity of the remaining circulation.

On the other hand, if in the asphyxiated we excite the circulation, without simultaneously and proportionately inducing the respiratory movements, we destroy our patient by carbonic acid, formed in the course of that circulation, and uneliminated by respiration.

This statement leads me to the proper subject of this paper—the Rationale of the Injurious and Fatal Tendency of the Warm Bath in Asphyxia: for it *is* injurious, and has, I am profoundly convinced, of itself proved fatal in cases in which the patient, without it, would have *spontaneously* recovered.

In such a case, it is surely not less essential to the progress of science and our art to remove error than to establish truth.

Warmth is so obviously a stimulus, and a stimulus is so apparently required for a patient taken out of the cold water in a state of asphyxia, that in recommending the warm bath we seem to be addressing ourselves to the common sense of mankind, and it was a step in advance to entertain a *doubt* on the subject.

But when we begin to experiment—when we learn that an animal deprived of respiration by being submerged under water, *lives longer* in *cool* water than in *warm* water, we learn to consider whether, in fact, coolness is not more favourable to life in the asphyxiated from submersion, than warmth. We recall to mind, too, that animals bear the abstraction of respiration in proportion to their coolness: the hybernant animals and the batrachian tribes will scarcely drown at all. If a kitten be first cooled, or if it be immersed in cool water, it will not drown so soon as it would do if submerged at its ordinary temperature in water of the same temperature—facts established by Edwards, by M. Brown-Séquard, and myself, and witnessed by the Secretary of the Royal Humane Society, and by its superintendent in Hyde-park.

Thus, experiment is made to correct preconceived ideas, however apparently consonant with common sense.

There are other facts which point to other modes of treatment of the drowned, which the administration of the warm bath necessarily excludes. If a poor creature be perishing for want of food, we cautiously administer food. If a man be, in like manner, perishing for want of air, should we not administer air? Is this not simple and reasonable? And in the case of drowning, is not the want of air the first condition to which we should bring succour, and the want of temperature the second or third? And should we not first administer to the first want? Then in the case of drowning, we should administer air first and warmth in the second place. But may not the warmth administered without air, do great absolute injury? It raises the temperature, and in so doing augments the necessity of respiration to life.

In the *first* place, if *any* effect be produced by the warm-bath, the circulation is accelerated. But to accelerate the circulation without inducing, at the same time, efficient respiration, is to augment the formation of carbonic acid—the *blood poison*,—without its elimination from the system, and it induces, consequently, a fatal result;

Secondly, all *excited* respiration through the medium of the cutaneous excitor nerves is excluded, the uniform temperature of the warm-bath excluding the excitants of those nerves arising from the *alternate* application of *heat* and *cold* to the surface;

And, *thirdly*, *imitated* respiration is excluded by the very sustained position of the patient, excluding, as it does, alternate pronation and rotation, and pressure applied and removed, or changes of position and compression, which induce respiratory movements.

So that the warm bath is not only positively injurious by *poisoning*, but negatively, by excluding the de-poisoning process.

Lastly, the warm bath excludes those frictions of the limbs upwards, with pressure, which really constitute the most effectual means of promoting the circulation and warmth.

Nor is it unimportant to save the *time* expended in preparing the warm bath, or in carrying the patient to it.

And it is scarcely a minor point to direct *all our thoughts and energies*, undiverted, to *the* important remedies exclusively.

In conclusion, the warm-bath is of *doubly fatal tendency*: it is so in itself positively; and it is so negatively, by excluding every real remedy.

All have heard of the *Grotto del Cane*. The poor dog is put into the carbonic acid, and taken out asphyxiated. It is plunged—not into a *warm-bath*—but into the water of the adjoining *lago* Aguano, and taken out—restored!

I am, Sir, your obedient servant,

MARSHALL HALL.

December 15th, 1856.

THE TREATMENT OF ASPHYXIATED NEW-LY-BORN CHILDREN.

To the Editor of the LANCET.

SIR,—I think it may be well to add the subjoined interesting case to those you have been recording. Already four cases of the restoration of the still-born, and two of drowned persons, in a state of hopeless asphyxia—hopeless under four modes of treatment—have occurred within a few months!

I am, sir, your obedient servant,

MARSHALL HALL.

December, 1856.

Southport, Dec. 15th, 1856.

DEAR SIR,—Every one having a just appreciation of scientific research, ought to make known the results of his experience bearing direct evidence upon the truthfulness of new discoveries.

I feel sure no one will dispute that Science and Humanity owe much to you for the discovery of the new mode of treating asphyxiated persons, whether by drowning or otherwise. With this idea, I beg to forward the subjoined case to you, not only to bear testimony to the general truthfulness of the theory, but to give you well-merited satisfaction.

I was called to see Mrs. H——, in labour of her first child, on the evening of the 12th instant. The pains continued through the night, and about 8 o'clock the following morning I found it necessary to administer chloroform, the pains were so agonizing. A large child was born by natural efforts at half-past nine A.M., in a state of complete asphyxia, and the head greatly compressed. After dividing the cord, I proceeded to try your method of establishing respiratory action. I turned the child gently over on the face, rolled it over on the side, and a little beyond, using gradual pressure on the lateral aspect of the chest, back again to a prone position, and so on, about twenty times in the minute. I did it thus frequently because infantile respiratory acts are more rapid than those of the adult. I dashed cold water on the face and chest, slapped the region of the diaphragm with the hand, &c.

After some time the child began to show signs of respiratory power, feeble enough at first, but gradually becoming strong.

I am persuaded this will soon supersede the other method, which I have always considered most unscientific and clumsy; but which, for want of a better one, I have hitherto adopted.

Your method is most easily and readily performed; no time is lost in preparing a hot bath, &c., or in poking the stem of a tobacco-pipe, or the pipe of the bellows, into the child's mouth—a most barbarous and uncertain way of inflating its lungs, and quite as likely to inflate its stomach instead.

I leave it to your own feeling to publish this or not; you are at liberty to do so if you think proper.

I am, Sir, yours truly,
G. B. Barron.

Marshall Hall, M.D., F.R.S.

P.S.—I have the satisfaction of adding a *fifth* case of recovery in the still-born infant, I trust in time to be appended to my communication of yesterday. M. H.

Dec. 22nd, 1856.

Carlton-street, Nottingham, Dec. 21st, 1856.

My dear Uncle,—* * * * * * Early this morning I attended a lady in her confinement. The presentation was a breech one, and there was much and unavoidable pressure upon the umbilical cord, which ceased to pulsate a quarter of an hour before the infant was born. When born the child was quite livid, without perceptible movement of the heart; indeed, to all appearance it was dead, and under ordinary circumstances I should not have entertained the slightest hope of its resuscitation. By adopting your method, I had the great satisfaction of seeing it fully restored to life in about twenty minutes, when it cried lustily, the nurse and friends being amazed at the result. Being the only son in a large family of daughters, the parents' delight was proportionately great. I explained to the father that he had to thank you for a living son. * * * * *

Believe me, my dear uncle,
Your affectionate nephew,
Marshall Hall Higginbottom.

Dr. Marshall Hall.

MR. SOLLY'S LECTURE.—IS SMOKING INJURIOUS?

To the Editor of The Lancet.

Sir,—I was much pleased with a lecture by Mr. Solly on "Paralysis," (See Lancet, page 120) but I was a little surprised at the frightful picture which he drew of the evil effects of smoking.

He says "he knows of no *single* vice which does so much harm as smoking." Without wishing to advocate the practice, I think it is a debatable subject whether the effects of smoking are so very bad. I have spent some time in Turkey, where tobacco is used far more extensively than in this country, and I never saw anywhere a greater number of hale old men than amongst the Turks—men who had been smoking from their childhood, and in greater quantities daily than is usual here. It is true Turkish tobacco is milder and purer than the tobacco used in England, and one is inclined to ask—Are the evil effects of smoking caused by tobacco, or by the adulteration of that plant?

Hoping that this note may draw forth the opinions of others whose experience may throw light on this important subject,

I am, Sir, your obedient servant,
J. A. M'Donagh, M.R.C.S.

Albert-street, Regent's-park, December, 1856.

Reviews and Notices of Books.

Principles of Medicine: an Elementary View of the Causes, Nature, Treatment, Diagnosis, and Prognosis of Disease. With Brief Remarks on Hygienics, or the Preservation of Health. By Charles J. B. Williams, M.D., F.R.S. Third Edition. London: John Churchill, 1856.

If we were called upon to select *one* book as the most fitting study for the tyro in medicine, we could not hesitate to choose the "Principles of Medicine," by Dr. Williams. Immediately after, or simultaneously with, his practical studies in anatomy and chemistry, we know of no work more eminently suited to be his constant companion. With this Mentor he will not be in danger of losing sight of the great practical objects of the curriculum of medical sciences—namely, the Preservation of Health and the Cure of Disease. He will be constantly led to reflect upon and to admire the intimate relationship of physiology with pathology, and thus become imbued with the great truth of the unity of the animal functions in health and disease—a truth which lies at the root of the rational, as opposed to the mere empirical, treatment of disease. Enlightened by this truth, he will further perceive the inter-connexion, the common features of diseases that occupy widely distant positions in nosological classifications. He will thus in time learn how to seize that Ariadnean thread that leads the truly practical physician through the ever varying and seemingly irreconcileable phenomena of disease to the full discernment of the morbific conditions, and the administration of those aids to the struggling system which bring the sick man back to health.

In the case of any book which, unlike Dr. Williams' "Principles of Medicine," had not already taken rank as a standard work, we should have felt it incumbent upon us to precede this unqualified recommendation by a rigid analysis. But on the present occasion we violate no canon of criticism, no law of logic, in expressing ourselves at the outset as we have done. This is a third edition. The judgment of the critical in every country where medical literature is prized has long since been pronounced; and the experience of those practitioners who have sought and found assistance in its lucid pages has ratified that judgment.

The author tells us that when he first communicated to his publisher his intention of bringing out a work on the "Principles of Medicine," he was by no means encouraged by the intimation that books on that subject did not sell; but no sooner was it discovered that the "Principles" were essentially practical, than the demand for the work became sufficient to exhaust two editions long before he could find time to replace them. The medical public now, familiar with the many excellences of the work, will read this statement of its success without surprise. But the misgiving of the honest bibliopole, which may be safely accepted as an indication of the then current notion of what were Principles in Medicine, bears unanswerable testimony to the necessity for Dr. Williams's undertaking. It was held and taught—and the error is not yet extinct—that the phenomena of disease belong to a new and separate order of things, the characters and laws of which are to be investigated by themselves, and without reference to the standard of health from which they deviate. It was held—and this is the cherished creed of the self-styled "practical man"—that diseases are independent entities, things having no definite relationship to each other, and under whose influence the body ceases to possess the same structures and functions which it does in health.

It is of the highest importance in medicine to keep ever in sight the elemental fundamental principles. There is nothing which the practitioner is in greater danger of forgetting; and when he has forgotten them, he is degraded from his position as a man of science, he has lost the key of his art. For this reason we regard Dr. Williams's book as no less valuable to the practitioner than to the student.

Regarding the Principles or Institutes of Medicine as those leading and general facts and doctrines which are applicable not to individual cases only, but to groups or classes of diseases, we recognise in this study the proper means of cultivating with success that higher department of the healing art which has for its aim the preservation of the public health. The mere empirical practitioner can never hope to promote the dignity of his profession by applying its great resources to the diminution of the causes of sickness. Etiology, the science of causes, is especially the province of the philosophic physician: it is the foundation of sanitary medicine; and that foundation, upon which is reared the goodliest structure of modern medicine, is laid in the very elements of the science.

The scope of this work embraces the following subjects: The author begins with Etiology, observing that a knowledge of the causes of disease appropriately introduces the consideration of the effect—*disease* itself. The nature and constitution of disease is then conveniently discussed under the head of Pathogeny, or Pathology Proper. This last subject occupies the greater part of the work, but is carefully combined with such an elementary view of the principles of treatment (General Therapeutics) as reason and experience supply. A short general view is afterwards given of the phenomena of disease, of Semeiology, of Nosology, of Diagnosis, of Prognosis, and of Prophylaxis and Hygienics.

The preliminary investigation into the general causes of disease forcibly illustrates the advantage of taking a comprehensive survey of the influence of external agents upon the human body apart from the study of particular diseases. In the systematic treatise on the Practice of Medicine, we are accustomed to see a paragraph set aside for the etiology of each disease as it comes under separate discussion. We thus get an imperfect idea of the variety and inter-connexion of causes, and we are especially disposed to lose sight of those family features which mark the relationship of diseases apparently distinct from each other. This chapter is of the highest value. We especially commend it to the earnest attention of the student at the very outset of his professional studies, because, while it serves as an admirable introduction to the study of medicine, it admits of profitable perusal, without calling for any large amount of technical knowledge.

The author has, however, expended the greatest diligence, learning, and research upon the second chapter, which treats of Pathology Proper, or the Nature and Constitution of Diseases. It is in this field that his great sagacity, earnest labour, and fertile experience are most strikingly displayed. Before entering with him upon the consideration of this subject, we must pause for awhile.

[SECOND NOTICE.]

The part of Dr. Williams's great work which deserves more especially to fix the attention of student and practitioner is that which is devoted to Pathogeny, or Pathology Proper. It is in the elucidation of this subject that the accomplished author has concentrated the fruits of his experience and his reflections. It constitutes by far the greater portion of the book. The large amount of matter condensed in this division, the closeness and consecutiveness of the pathological and therapeutical reasonings, render it an impossible task to reproduce within a reasonable compass so much as a *catalogue raisonné* of the contents. This is, moreover, a third edition of a work that has acquired a wide circulation. The plan and leading doctrines are therefore known to the profession—at least to the more philosophical and reflective portion. Considerable additions have, indeed, been made, but this circumstance does not call for a detailed recapitulation of the topics discussed.

The author sets out by the proposition that disease is composed of elements. He observes, that as the anatomist or physiologist examines structures and functions by separating or analysing them into their constituent parts, before he enters on their contemplation as a whole, so should the pathologist study the constituent parts or elements of *disease* before he attempts to describe their combinations. There are the healthy and diseased *primary* or *ultimate elements of structure*—muscular fibre, nervous matter, vascular structure, and the elementary tissues of membranes, glands, skin, and other like textures; and there are *primary elements*, healthy and diseased, of the *functions* of these same structures—irritability, tonicity, and nervous properties, to which we may add, because at present we cannot analyse it, the process of secretion and nutrition; and lastly, there are the constituents of the highly important fluid which furnishes the material of the elementary tissues—namely, the blood. But there are also *secondary* or *proximate elements* of disease, composed out of these primary elements, but which are themselves simple, in comparison with the complex conditions of disease that they combine to produce. And again, disease varies both in *kind* and in *degree*, the *degree* including *excess* and *defect*, and kind relating to changes not coming under either of these heads, but characteristically expressed by the term *perversion*. This method of teaching general pathology—a method at once analytic, inductive, and synthetic—the method which is pursued with so much success as a means of instruction, and such splendid fruits as a means of discovery—has been pursued by Dr. Williams in his lectures since 1839. It is the basis of his arrangement of his topics in the present book. It should be constantly borne in mind by the student whilst reading the work. It is the parent idea—the chain which binds all the parts together, giving to each isolated fact a new significance, and fixing upon the mind the great end of his study, the acquisition of *principles* which shall guide him through the labyrinthine paths of disease to accurate diagnosis and successful treatment.

In conformity with this plan, the author discusses, first, functional Diseases of the Primary Elements. Under this general head are sections on Irritability; diseased Tonicity, which includes the functional disease of the muscular substance; diseased Sensibility. Diseased Voluntary motion, diseases of Reflex and Sympathetic Nervous Influence, are ranged under disorders of the Elementary Nervous Functions. Then follow minute and elaborate analyses of the disorders of Secretion, and diseases of the Constituents of the blood. The sections devoted to this last subject constitute perhaps the most valuable essay on hæmatology extant. They occupy nearly one half the entire volume. In addition to this, when he reflects that these diseases of the circulating fluid are largely concerned in the production of the muscular and nervous function of diseases of structure and nutrition, the student will form some approximate conception of the importance of the blood in health and disease. It is impossible to follow the learned author through this part of his work without recognising him as a foremost champion of humoral pathology. A large portion of the subject of hæmatology is treated under the head "Proximate Elements of Disease." This division includes Anæmia; Hyperæmia, general and local; and Inflammation, which is discussed with remarkable clearness. Then follow Structural diseases, or diseases of Nutrition.

The concluding chapters are devoted to Classification, Symptoms, and Distinction of Diseases; to Prognosis; to Prophylaxis and Hygienics. These subjects are treated with more brevity than that of Pathology Proper; but we need not say that they are nevertheless worthy of careful perusal.

Amongst the points of novelty in the present edition, the author's remarks on cod-liver oil as a medicinal agent are of especial value. No physician in this country has investigated the therapeutical action of this substance with more care, with greater acumen, or more extensively than Dr. Williams. The testimony he bears in its favour is strong and unequivocal.

> "The present state of our knowledge," says Dr. Williams (p. 486), "appears to justify the conclusion that cod-liver oil is chiefly beneficial as an oil supplying a material which enriches the blood, affords both combustive and nutritive elements, and penetrates throughout the tissues and deposits, softening their concrete fat, and rendering more supple their solid fabric. The superiority of cod-liver oil over other oils seems to consist in its easier digestibility by the stomach and chylopoietic organs, which is probably dependent on the bile and perhaps other ingredients which is contains. The nutrient properties of cod-liver oil have been proved by its increasing the proteinaceous constituents of the blood, except the fibrin, which is diminished,"

Dr. Williams adduces the testimony of his great experience in favour of the pure pale oil prepared in this country and Newfoundland. During the last ten years, he has prescribed it for nearly 9000 patients, and with such success that it was taken without material difficulty by 95 per cent. of the whole number; and of those who took it, fully 85 per cent. derived more or less benefit from it. It doubles, he says further, the duration of life in phthisis.

Here we must close, albeit abruptly. We find that the deeply-interesting matter and style of this book have so far fascinated us, that we have unconsciously hung upon its pages, not too long indeed for our own profit, but longer than reviewers can be permitted to indulge. We leave the further analysis to the student and practitioner. Our judgment of the work has already been sufficiently expressed. It is a judgment of almost unqualified praise. The only feature in the literary execution which looks like a fault, is one which many will regard as evidence of the author's merit as a friend. We observe that, when citing authorities, he appears to evince a marked partiality for the names of Gulliver, Alison, Carpenter, Rokitansky, and a few others. He does this now and then where perhaps other physiologists may feel aggrieved. But upon this topic we will not dwell. The work is not of a controversial, but of a didactic character. And, as such, we hail it, and recommend it for a text-book, guide, and constant companion to every practitioner and every student who wishes to extricate himself from the well-worn ruts of empiricisms, and to base his practice of medicine upon principles.

A Treatise on Therapeutics and Pharmacology, or Materia Medica. By George B. Wood, M.D., President of the College of Physicians of Philadelphia, Professor of Medicine in the University of Pennsylvania, &c. In two volumes. Philadelphia: J. P. Lippincott & Co. London: Trubner & Co. 1856.

The author of these volumes is already favourably known to the profession in this country by his works on the Practice of Physic, and the Dispensatory of the United States—the last in conjunction with Dr. Franklin Bache, and a book which is a monument of perseverance, labour, originality, and very great research, and one which will stand as long as medicine remains a science. Anything, therefore, emanating from such a source demands some attention, and, as we expected, we find that this last production of the author's pen is by no means inferior to its predecessors. The work is divided into two parts, the first embracing General Therapeutics and Pharmacology, and the second, Special Therapeutics and Pharmacology. The first part consists of four chapters, with their subdivisions into sections, in which the operation, effects, application, and classification of medicines are considered. This part forms but a small portion of the work, and does not exceed ninety pages; enough, however, is given to render these important subjects clear and intelligible, without being tedious. The second part forms the bulk of the two volumes, and leaves very little indeed to be desired. It is divided into systemic and non-systemic remedies. Under the head of systemic, the author gives (using a sub-division into chapters, sections, and classes) Permanent Stimulants as Astringents and Tonics; Diffusible Stimulants, divisible into Arterial, Nervous, Cerebral, and Spinal Stimulants. General Sedatives—Arterial Sedatives and Refrigerants, Nervousand Cerebral Sedatives. Alteratives. Local Remedies affecting the Functions, comprising ten classes; Local Remedies affecting the Organization, and Local Remedies acting Mechanically. In the last we find a class which the author denominates Protectives, direct and indirect, the direct being olive and almond oil, lard, suet, spermaceti, wax, plasters, collodion, gutta percha, &c.; the indirect, nitrate of silver, iodine, and creosote. The author's classification altogether, which can be imagined from the foregoing, although it may seem complicated, is, in reality, a most useful one, but will be better understood by a reference to the work itself. An attentive perusal shows that every known therapeutical agent has met with a fair share of consideration at the author's hands, with a description just of sufficient length to our taste, of its origin, properties, composition, adulteration, effects on the system, and therapeutic application; the last being especially practical, and conveying at once to the reader what is so much looked for of any medicine—namely the diseases benefited by the use of the remedies. Its administration appropriately terminates its history. Many most valuable remedies, whose names only are found in some of our works on materia medica, and whose properties do not seem to be known or recognised in this country, are not overlooked by the author, and obtain a fair share of consideration. We will take, for example, the Sanguinaria, or Blood-root. Its therapeutic application is given as follows:—

> "The medicine may be employed for the ordinary purposes of the emetics, but from its irritant properties it is inferior to ipecacuanha, and is less used with this object than as a nauseant, expectorant, and alterative. It has, however, been recommended as an emetic in croup, and may be employed appropriately in all cases, in which, along with an indication for emesis, there is a state of system demanding rather supporting than exhausting measures. For its expectorant and alterative properties, it has been highly recommended in various pectoral affections, and especially in pneumonia, in the advanced stages, or typhoid conditions of which, it is considered by some as a highly valuable remedy. It has been found useful also in bronchitis, acute and chronic; in asthma, and pertussis. In rheumatism, too, it has been used with supposed advantage, and has been recommended as an alterative in disease of the liver. It should not, however, be used in any case during high febrile excitement, nor in acute inflammatory affections, until after due reduction by depletory methods."—vol. ii. p. 441.

To take but one other example—the Polygala Senega. This substance is here shown to be a much more valuable remedy than is supposed in Britain, although we are well acquainted with its properties in certain chest affections. It has been found useful in other diseases as well as the thoracic; thus, in certain forms of dropsy it has been used with success; it is useful in the chronic forms of rheumatism, and considerable confidence is expressed in its emmenagogue properties. We find that, amongst its officinal preparations, besides the well-known decoction and infusion, a syrup is employed. It also enters into the compound syrup of squill of the United States Dispensatory, containing the virtues of squill and seneka, with a grain of tartar emetic in each fluid ounce. Like many drugs possessing emetic properties, it will be found to act upon the skin.

Dr. Wood mentions in his preface that the work has no pretension to be considered as a complete exposition of the materia medica, properly so called. In this we consider its great value lies; for he has ably performed his task in directly and immediately interesting the medical practitioner, by selecting such parts in the history, properties, and preparations of drugs as would prove not only practically useful to him, but especially serviceable to the student. The same great principles of pathology pervade the present work, as are found in his treatise on the Practice of Medicine, and which constitute the basis of what belongs to the general subject of therapeutics. We would strongly recommend Dr. Wood's volumes to the notice of the profession in this country. They will be found of great value to the student as well as the teacher, and are free from those technicalities which so much encumber works on materia medica of the present day.

Traité des Maladies du Sein et de la Région Mammaire. Par A. Velpeau, Membre de l'Institut: Chirurgien de l'Hôpital de la Charité, &c.

On Cancer of the Breast and Mammary Region. By A. Velpeau, Member of the Institute, &c. Translated from the French by W. Marsden, M.D., Surgeon to the Royal Free and Cancer Hospitals. London: Henry Renshaw.

A literal and faithful translation of a most valuable treatise on the Malignant Diseases of the Breast and of the Mammary Region, by M. Velpeau, the celebrated Parisian Surgeon, has most opportunely been offered the public and the profession by Dr. Marsden, senior surgeon to, and founder of, the Royal Free Hospital and head surgeon to the Cancer Hospital, Brompton and London. Notwithstanding the many valuable additions to the literature of malignant disease of the Breast and Mammary Region, such a work was greatly wanted. Its history is briefly this:

M. Velpeau is pre-eminent as a practical man, profound physiologist, and talented author. The present work contains the results of more than thirty years' careful clinical observations conducted in large hospitals, in the presence of numerous classes of students; and in an extensive private and consultation practice, aided by the researches of the first micrographers of the day, who mostly were, indeed, M. Velpeau's students. Thus nothing has been neglected, calculated in the most remote manner to throw light on a subject confessedly surrounded by the greatest difficulties. Dr. Marsden, being surgeon to the Cancer Hospital, where, daily, as it were, every form of this dreadful disease is brought before him, must, during a long and active professional life have become familiar with all the difficulties besetting an inquiry which, as M. Velpeau judiciously remarks, has extended, nearly in its present form, from Hippocrates to the present day. Thus the work appears in its English dress under the most favourable circumstances.

As regards the Pathology of Cancer, that all-important point, it is but too evident, and we say it with regret, that the doctrine of the cancer cell, so ably expounded by Lébert, Vogel, and other distinguished micrographers, can no longer be accepted as a doctrine or theory entitled to hold its ground in medicine. The cancer cell is not pathognomic of cancer; its presence is no proof of the malignant character of the disease, nor its absence of the opposite. The work before us proves incontestably that M. Lébert and those who think with him will be compelled, however reluctantly, to modify their view and opinions on this important matter. To *the operation*, as performed with the scalpel or bistoury, M. Velpeau still looks as the only remedy to be at all depended on. That it fails he frankly admits; no surgeon lives who less dreads his want of success being known. But although favourable to the use of the knife,—emboldened in this course, no doubt, by the successful application of etherization,—he is not unmindful nor reluctant to admit the benefits which patients labouring under malignant disease may derive from the judicious use of caustics, the various qualities of which he describes with infinite care, and the utmost impartiality. To say that the work of M. Velpeau contains every novelty in doctrine and in practice, as we should expect from a French surgeon, is not to do it justice; it contains the results of the inquiries of a highly gifted mind, which for thirty years had never lost sight of the disease.

Thus every remedy has been tried, every recommendation attended to, how suspicious soever might be the source whence the recommendation or the proposed remedy came. It is not enough to say that it merits the confidence of all; the work is destined to become popular, and to be a standard of reference for a century, at least. To the oldest, to the most experienced, its perusal will suggest many points for reflection; carefully studied, it will place the young surgeon *au courant* with the most advanced doctrine and practice of the day: to the provincial surgeon especially this work must prove invaluable.

If an agreeable reflection may be drawn from a subject so disheartening as the medical history of cancer, it will be found, we think, in the courageous, indefatigable, and unceasing efforts on the part of the profession, during so many centuries, to discover a remedy for the most terrible of all diseases. The latest effort in this direction we now review; the treatise before us furnishes a secure starting point for future inquiry, and for a long period to come will assuredly be viewed as a classical work on Cancer of the Breast. Four highly-finished and beautifully-coloured engravings further enhance the value of this elaborate and practical treatise.

It was, originally, the intention of the translator, as we learn from a short notice attached to the translation, to have added to the original work by M. Velpeau, notes and observations drawn from the results of his own extended practice, but we think he has acted judiciously in reserving them for a separate and distinct work, in which the great practical question of the importance of a combined constitutional and surgical treatment may be fully submitted to the profession and the public.

Shakspeare's England, or Sketches of our Social History in the Reign of Elizabeth. By G. W. Thornbury. 2 vols., fcap. 8vo. London: Longmans.

Full of pleasant and lively sketches of men and manners of the time of Shakspeare: a fit companion for a reader of his works. It touches upon almost every point of the social life of the period. Here is a sketch of the state of medicine at the time:

> "Amongst the strong vomits of the period were found, asarabecca, whose leaves were pounded in posset drink, with liquorice or aniseed, laurel-berries and purslane, or endive-juice, squills mixed with white wine, white hellebore, or sneezing powder, antimony, tobacco: 'divine, rare, super-excellent tobacco,' says Burton, 'is a virtu-

ous herb when medicinally used; but as taken in smoke, hellish, devilish and damned.'

"The common purgatives were polipody and epithyme, myrabolanes, aloes, fumitory, dodder herb, mercury, caper roots, broom, pennyroyal, half boiled cabbage, feverfew, ammoniac, salt, saltpetre, dragon's root, centaury, and dittany, of the gentler medicines.

"Senna was taken in powder, and an infusion with ginger, and cordial flowers as a corrective. Sometimes, sodden in chicken-broth or whey, or steeped in wine, lapis armenia, lapis lazuli, and black hellebore were also used.

"Among the compound medicines a wine made of hellebore, squills and senna, was used in madness, either as a purgative or a fomentation. Electuaries were made of hyssop, origen, penny-royal, thyme, and mustard, and, when strong, of pellitory, pepper, and ginger.

"Some medicines were taken in snuff, as the juice of pimpernels and onions, castor pepper, white hellebore, clysters of Castile soap and honey, or even of scammony and hellebore, were often used.

"The doctors of this age employed cupping and leeches, while they frequently seared the flesh with cauteries or hot irons. About bleeding there were many different opinions. Hercules de Saxonia despised it, but Laurentius, another medical authority, approved of it, from the example of the Arabians.

"Some men began with lenitives, then went on to preparatives, and, lastly, to purges. Lenitives were electuaries; preparatives were generally syrup of borage, bugloss, apples, fumitory, thyme, or epithyme, mixed with distilled water, or a decoction of bugloss, balm, hops, endive, scolopendy, or fumitory; the gentler purges were senna, cassia, epythyme, myrabolanes, and catholicos.

"Doctors were divided between the Paracelsan sect and the Vegetarian,—the former used minerals, and the latter vegetables; the 'nourishing clysters' of the vegetarians were made of anise, fennel, bastard saffron, hops, mallows, oil of violets, sweet almonds, &c.

"The horrid torture of cauterising sick men with hot irons was by no means uncommon. Arculanus advises that the cautery should be of gold. Cauteries were to be used 'when other physic does no good,' says Burton, by which we may easily conjecture that this frightful remedy, now only used by doctors in cases of poison or hydrophobia, was usually tried on dying wretches past all other hope, as a mere consolation to despairing friends, and as a means of extricating some final fees from their departing victims. Gordonius advises that melancholy men should have their heads bored in two or three places, 'to let out the fuliginous vapours.'

"The Elizabethan diaphoretics were decoctions of China root, sassafras, and sarsaparilla. Amber was considered a valuable diuretic; and bezoar stone, particularly that of Montpelier, was thought to 'refresh the heart and corroborate the whole body.'

"Baths of medicated water were much used, and also herb fomentations applied locally. As narcotics, the country folks used possets of hemp-seed; richer people went to opium, or decoctions of poppy, mandrake, violets, roses, lettuce, henbane, nightshade, saffron, and willows. Sometimes the temples were anointed with the oil of poppy, mandrake, purslane, or violets. When court intrigues robbed nobles of their rest, sacks of wormwood, henbane, hops, or roses, were placed under their pillows; Cardan says, in such cases, the patient's feet should be anointed with the fat of a dormouse, and the teeth with ears' wax of a dog, swine's gall, and hare's ears. Occasionally plasters were made of castorium, opium, and aqua vitæ, and stuck on the temples. Fomentations were not uncommon, made of rose-water and vinegar, and a little woman's milk.

"To procure pleasant dreams, instead of doing a good action, weary debauchees took after supper distilled waters of balm, or the herb horsetongue, and avoided black wines and the flesh of hares.

"The cure of *rusticus pudor* or *mauvaise honte*, when proceeding from morbid self-consciousness, pride, and shyness, was effected not by moral precepts, but by washing the face with lac virginale or litharge, or in rose, violet, and lettuce waters. Quercetan recommends the water of frogs' spawn; Scolzius, strawberry water; and Hollerius, draughts of boiled succory. Burton, accustomed, perhaps, to this student's disease, advises the sufferer to overnight anoint his face with hare's blood, and in the morning to wash it with strawberry and cowslip water, the juice of distilled lemons and cucumbers, or else the bruised kernels of peaches or roots of Aron mixed with wheat bran, and baked in an oven, and then crumbled into gilliflower water. Fresh cheese curds abated the redness of a flushed face; sow-thistle roots, baked apples, preserved quince, and cummin seed were also wholesome if these flushes were the effect of indigestion.

"For cleansing the blood Dr. Caius would have used sow-thistle, succory, senna, endive, carduus benedictus, dandelion, hop, maidenhair, fumitory, bugloss, borage, with their decoctions, distillations, and syrups.

"The diuretics were aniseed, dill, fennel, germander, and ground pine. Against flatulency, the medicines were innumerable; they were gentian, valerian, dittander, pennyroyal, rue, calamint, bay leaves, rosemary, hyssop, and various spices. Such were the remedies of men who, in spite of them all, lived quite as long as their more learned descendants."

On the Construction of Hearing and Speaking Instruments. By John Bishop, F.R.S., F.R.C.S. Eng., Member of the Council of the College of Surgeons, &c. London: Churchill. 1856. pp. 18.

There is, perhaps, no one subject within the range of medical science on which empiricism and fraud have profited so greatly as the manufacture and sale of ear-trumpets. We have them of all imaginable forms and sizes, from small "cockles," hardly larger than the external ear, to large and unwieldy instruments, alike unsightly and almost useless. Under these circumstances, an elaborate inquiry into the principles which should guide us in the construction of such instruments must be of incalculable advantage to the unfortunate sufferers from imperfection of hearing.

With the view of rescuing this subject from the hands of empirics, the author has, by long and laborious investigation, endeavoured to educe certain rules for the construction of hearing and speaking trumpets, based on geometrical and acoustic laws, the results of which are embodied in the pages before us.

The grand defect in the instruments now in use is, that although the patient may hear well with them when the speaker places his mouth within a very short distance of the aperture of the instrument, he is nearly or quite inaudible when a few feet distant. The problem for investigation is, then, so to construct an instrument as to enable a deaf person to hear at any distance such sounds as are audible by him with an ear trumpet of a certain aperture only at a certain distance at any other distance also. The result of the investigation, is that the author has succeeded in establishing the law that the cone is the form best adapted for collecting articulate sounds; has determined the proportions that should subsist between the two apertures, and the length of the instrument, in order that all the phonic waves received by the distal aperture may be transmitted undiminished to the ear; and he has given formulæ for the construction of the instrument, which will confer on it the same accuracy of adaptation already applied with the most extraordinary effect to optical instruments.

We cannot in this place enter on the mathematical reasoning on which the formulæ are based; but from the known reputation of the author on cognate subjects, his published works on the voice and on deformities, each of which contains similar applications of mathematical science, we place the utmost confidence in the accuracy of his reasoning, and the evident improvements in the ear-trumpet which the application of these principles and formulæ will effect.

As spectacles and other aids to vision must be adapted to peculiar defects of the eye, so we must naturally expect that similar care must necessarily be bestowed on the adaptation of the ear-trumpet to the different degrees and peculiarities of deafness in each case, and that, while one form or size of trumpet is adapted to the hearing of music, another will be more peculiarly fitted for the audition of articulate sounds; and the skill of the maker and the success of the instrument will depend on its exact adaptation to the case and purpose for which it is intended: as, in the case of spectacles, we could not expect the same pair to be used with equal effect for long and short distances, for viewing a landscape and for reading.

Any investigation which results in the rendering either of our senses more acute, enlarging its sphere, or remedying its defects with mathematical certainty, must of necessity be a boon to society; and we conclude this brief notice by tendering our thanks to the author for the evident pains he has taken in rectifying and enlarging our notions on this recondite subject.

The Principles of Surgery. By JAMES SYME, Professor of Clinical Surgery in the University of Edinburgh. Fourth Edition. London: John Murray.

IT is now fourteen years since the last edition of this work appeared, and the present volume, which has just issued, may be supposed to bear the impress of the latest and most matured views of its talented and experienced author. If the reader should therefore expect to find in it any great addition, any startling surgical novelties, or the last experiments from Paris or Vienna, he will be disappointed, and will show, moreover, that he is not acquainted with the idiosyncrasy of its writer. Indeed, if he has been familiar with the work heretofore, he will, on opening a copy in its present shape, observe that the hand which has gained fourteen years of practical experience has altered the record more by pruning and subtracting, than by adding and enlarging. This is a significant fact, and one that stands out marvellously in this day of prolific authorship, of many words, and pictures innumerable, as an almost unique exception. First, all the drawings, whether wood or copper, are omitted. We cannot say we like it the better for this: they are useful to the student; less so to the practitioner. Secondly, it is not an uninstructive task to compare the two copies of 1842 and 1856, for the purpose of observing how the views of the former date are in some respects modified; how the withdrawal of a short sentence in one place, how the introduction of two or three lines in others, have sufficed to indicate the progress of the professor's views to one or the other side of a controverted point. It is impossible to indicate all these: they are well worth the study of the surgical student. A few may be enumerated. At page 56 are some sound and sensible remarks in relation to the value of the microscope in the examination of morbid tissues, and an appeal to the young surgeon not to let it make him cease to educate well his naked eye and sense of touch. Pages 95–99 give the author's views on ligature in aneurism, and his preference, not strongly declared, for it over all other means as the rule. Page 145 introduces his operation at the ankle-joint, and remarks on proposed modifications of it; and at page 338 his operation for stricture by external division is explained and discussed. All this is new matter. The section on excision of joints is but little altered, except in matters of detail. The expressions employed in 1842 in relation to the hip-, and also to the knee- and ankle-joints, in which the operation of excision is regarded as of doubtful value, remain unchanged.

The book is emphatically a book of Principles; a good exposition of which it has been always the most important as well as the most difficult to obtain. Its author tritely says, in the preface,—

> "They cannot now lay any claim to novelty, but possess what I hope will be considered a better recommendation, from having stood the test of nearly thirty years' hospital experience, and been subjected to trial during the same period, both at home and abroad, by a long succession of pupils, without, so far as I know, ever forfeiting the confidence with which they were received."

We are bound to add, in general terms, that for sound principles, for well-defined doctrine and clear enunciation of it without vagueness or verbosity, we do not know a work that surpasses it.

Varicose Veins, their Nature and Treatment. By HENRY T. CHAPMAN, F.R.C.S., formerly Surgeon to the St. George's and St. James's Dispensary, and some time Lecturer on Surgery at the School of Medicine adjoining St. George's Hospital. Fcap. 8vo. pp. 99. London: Churchill.

THE first part of Mr. Chapman's work is occupied with a consideration of the structure, functions, and pathology of the venous system. In the second part, he has dwelt at great length on the treatment of varix. Strapping he is decidedly adverse to. One of the points especially insisted on by the author in the curative treatment we quote in his own words:—

"Place a patient on a low seat, and elevate the foot until the veins empty themselves by the gravitation of the blood towards the trunk. I apply wet straps of linen or calico precisely in the same manner as Mr. Scott applies adhesive plaster. The bands for this purpose should be from two to three inches in width, and from twelve to sixteen in length, stout enough to prevent them tearing easily, but not too thick. Adjusting the middle of one of the shorter and narrower of these bands, previously soaked in water, just above the heel, the two ends are brought forward over the ankles, drawn tightly, and crossed upon the instep. The middle of another is placed beneath the sole of the foot, its extremities brought firmly over the instep, and laid down smoothly one upon the other. A third is applied, like the first, from behind forwards, but a little higher, and thus ascending the leg the process is repeated with the rest of the bands, each one in succession overlapping the upper half of that below it, until the limb is firmly and evenly cased to the knee. Over the straps a calico roller is carefully put on, the greatest attention being paid to its equable adjustment, so that pressure may be uniformly distributed over the entire limb. Through its texture the varicose veins should be moistened several times with some astringent solution. Whenever the bandage is taken off for renewal, the dilated veins should be briskly rubbed upwards with the hand for some time, and a douche of cold water poured over them, the foot being kept in an elevated position till it is reapplied."

We recommend a perusal of this volume. Its readers will at once perceive that its contents are of a truly scientific and practical character, and useful to the student and practitioner.

On the Harrogate Spas, and Change of Air: exhibiting a Medical Commentary on the Waters, founded on Professor Hoffman's Analysis. A new and enlarged Edition. By G. West Piggott, M.A., M.D. Cantab, London: Churchill. Harrogate: Palliser. Small 8vo. pp. 280.

This is a useful little handbook for those who may be resorting to the Harrogate springs and baths, as it not only points out the constitution of the waters of that locality, and the maladies for which their employment has been recommended, but it also diverges into histories and descriptions of the neighbourhood and of baths in general, almost treating *de omnibus rebus*, &c., and of subjects very well calculated to amuse and interest the leisure of an invalid. The waters of Harrogate, as the author has stated, may be arranged into four distinct classes—viz., the pure chalybeate springs, the saline chalybeates, the mild sulphureous, and the strong sulphureous springs. Each of these is separately described, and at the end of the work is an analytical table of their mineral contents by Professor Hoffman. At p. 277 Dr. Pigott publishes an extract from a letter sent to him by a physician of eminence, who writes:—"I really think that a work of the kind you have produced was needed by us all, as sadly too little has been known of the Harrogate waters. Patients are often sent, even by medical men, to Harrogate, without knowing the why or wherefore. Dr. Piggott's treatise is adapted to render medical practitioners amply acquainted with the peculiarities of the Harrogate springs, and thereby to enable them to judge of cases in which a resort to Harrogate should be recommended in preference to other English spas.

Observations sur la Fausse et la Rèelle Hydrophobie, et d'autres Maladies des Chiens. Bruxelles: J. H. Briard. Pamphlet.

The brochure before us is addressed to the Central Society of Agriculture in Belgium, by the foreign secretary of the Animals' Friend Society in London. The author states that true hydrophobia is a rare disease, and that a slight gastritis, or else an inflammation of the œsophagus, to which dogs are very subject, is often mistaken for it, but might usually be cured readily by rest, plenty of cold water, and a dose of purgative medicine. He recommends that a suspected animal should by no means be destroyed, but, as well as any animal bitten by it, ought to be kept secured for a period, by which means, in the great majority of cases, much unnecessary terror would be dissipated by a proof of the non-existence of true hydrophobia, and many valuable animals would thereby be preserved. Muzzles for dogs he altogether condemns, as they hinder the animals from obtaining with ease a sufficiency of water for their benefit. Some practical remarks on the treatment of dogs in this little pamphlet deserve praise.

Pathological Chemistry in its Application to the Practice of Medicine. Translated from the French of MM. Becquerel and Rodier, by Stanhope Templeman Speer, M.D., &c. Cheltenham, 1856.

Were we asked to point out the line of scientific research, the prosecution of which would best aid the onward progress of rational medicine, we think we should be induced to reply, pathological chemistry. Again, were we asked what branch of pathological chemistry is the most important, we should reply, hæmatology, inasmuch as the blood is the material from which the whole animal fabric is developed, while all the phenomena of pathological anatomy are but as sequences to changes occurring in that fluid. We would not affirm that these changes may not sometimes depend on causes extrinsic, as it were, to the blood; but the changes are there, and although they require to be studied in reference to other parts of the animal organism, still they must be observed in the blood also. From these few remarks, we conceive that the value of the work, the title of which is given above, will be readily estimated. The well-known names of its learned authors are a sufficient guarantee for its authority. The chapter on the Blood is particularly full, and the whole work supplies a desideratum in English medical literature, for which the profession may feel grateful to its able translator. We must here state, however, that the authors disclaim all idea of writing a complete treatise on chemistry. In their own words, they have rather attempted an application of chemical facts to medicine, properly so called, and especially to pathological anatomy, by collecting and arranging in a convenient form, all that is at present known relative to the various morbid changes which the solids and fluids of the body may undergo.

The work commences with a short chapter, which treats of the fluids contributing to form the blood—viz., the lymph and the chyle.

The second chapter may be considered as a distinct treatise on Hæmatology. The authors begin by stating the best method for the analysis of the blood. Its different constituents are then enumerated, and each is made the subject of separate investigation, both in health and disease. The blood is then examined synthetically, and the variations of which it is susceptible in health treated of.

The pathology of this fluid is minutely investigated, together with the modifications which it may undergo in the principal classes of disease, both acute and chronic. At the close of each section, practical conclusions are deduced from these modifications, upon which may be based, to a certain extent, the therapeutics of each disease. The great majority of the researches of which this chapter contains a summary are based upon the personal observations and reiterated experiments of the authors themselves.

The third chapter contains a full account of the fluids secreted by the conglomerate glands—viz., the saliva, the bile, the pancreatic juice, the milk, the spermatic fluid, and the urine. The pathology of the urine had long since been made a special object of investigation by M. Becquerel, in an able work entitled "De la Semeiotique des Urines." The additional light thrown upon this subject of late years required a revision of the opinions then expressed.

The fourth chapter is devoted to an examination of the products of secretion, whether solid, liquid, or gaseous, furnished by the organic membranes; the fifth, to the normal composition of the tissues, and to the pathological changes of which they are susceptible; and the sixth, to the consideration of newly-formed pathological products, such as pus, cancer, and tubercle.

Such is a brief outline of the work now before us, and we cannot state its object more clearly than by quoting the final paragraph of the authors' preface:

> "We have (say they) during the whole course of our labours, borne in mind that the work which we now offer, is especially addressed to the physician, and that, as such, it should afford him a simple, concise, but at the same time complete, account of the actual condition of science relative to the chemical composition of those tissues, fluids, and organs, which he must constantly be under the necessity of examining in his endeavours to contribute to the advancement of science," and, we might add, to the welfare of his patients.

As regards the translation of this work, we should have expected, from the translator's former contributions to medical literature, that he would bring to his task a thorough appreciation of his author's doctrines, and a perfect ability to render his translation faithful and clear. In this we have not been disappointed. We can say with truth that we have scarcely ever read a translation in which all idiomatic expressions were so completely absent, and where so pure an English style was employed, without at the same time sacrificing or obscuring the sense of the original.

Strongly do we recommend the work to all those of our medical brethren who wish to keep up with the onward movement of rational medicine.

We must not pass by a graceful compliment paid to Dr. Martyn Paine, of New York, in the dedication, by the translator.

THE TREATMENT OF THE INSANE.

Every man who has taken an interest in that great movement commenced by Pinel for the rescue of those of our fellow-beings who are afflicted with the direst of diseases, from the ruthless hands of ignorance and cruelty, must peruse the recent work of Dr. Conolly* with mingled sentiments of gratification and anxiety. At first, he will he arrested by the contrast between the picture of our asylum governments at a period not more remote than twenty years, and what he may now see in numerous public and private institutions throughout the country. He will dwell upon this contrast with exultation and thankfulness. But let him pursue his reflections, and consider how much remains to be done; what obdurate vitality there is in prejudice; how apt is human frailty to relapse into error; and he will participate in the apprehensions of the accomplished physician who here records his experience, and his doubts lest the old system of brutality should revive. One reason for this apprehension is powerful enough to raise the determined energies of the profession of medicine. The triumph of science and humanity is not yet complete. There still linger asylums where the traditions of the cast are too faithfully preserved, and their degrading practices faithfully continued: the rash and unphilosophical doctrine—still widely prevalent amongst the educated classes—that insanity is not a state of disease; that it does not imply irresponsibility, that the gaol, hard labour, even capital punishment, are appropriate means of cure and repression, teach us the error of indulging in too sanguine expectations. Vain, well-meaning, uninformed humanitarians there still are, in abundance, whose voices are influential in local administrations, and in the press, who are ready enough to praise the labours of those who, like Dr. Conolly, have devoted great talents and the unswerving resolution of a life-time to the amelioration of the condition of the insane, but who still cherish opinions fatal to the stability of the reforms that have been effected. So long as judges, clergymen, and public writers hold the conviction that insanity is an affection which all the world is competent to detect and to treat; so long must the condition of the insane be a subject of the deepest anxiety.

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* The Treatment of the Insane without Mechanical Restraints. By John Conolly, M.D. London: Smith, Elder, & Co. 1856.

We must also remember that the custody of the insane is still a licensed source of profit to many persons who are neither fitted by education nor by refinement of feeling to appreciate the condition of their prisoners, nor to look with much favour upon modes of treatment which involve both trouble and expense. The indifference, or rather the aversion, that still exist in some proprietors and directors of asylums, public as well as private, to all the means of improving the condition of the unhappy creatures committed to their charge, and their determination to make mechanical restraints a substitute for all better means of control, proclaim that the new system is even now but imperfectly established. The notices of the Commissioners of Lunacy and the force of public opinion have, indeed, compelled many reluctant reforms; but the principles which led to all the former abuses have not become extinct, nor can anything but continued vigilance of inspection secure the insane from a recurrence, to a certain extent, to the disgraceful practices of the old madhouses; for still, of all passions, avarice is the most cruel.

To consolidate and to plant the modern reform in the treatment of the insane on a durable foundation is the especial charge and mission of the medical profession. If they shrink from this sacred duty, if they but falter in their course, woe to the insane! In the eyes of theologians, insanity was always sin; in the eyes of our judges it is crime; it is only the physician who can discover in it the working of disease. It is in this department of medicine especially that the physician is called upon to assert his high function as a public instructor. The physician's office is assuming, in these times, a higher character in proportion as he ceases to be a mere prescriber of drugs, and acts as the guardian or conservator of public and of private health. It is this character which he should be careful to cultivate. It is his especial duty to use the influence which attaches to it for the protection of the most helpless of humankind, and to rescue this and all future generations from the reproach of barbarity which hangs upon the past.

In spite of the occasional, even frequent, evidences of the prevalence of those erroneous notions concerning the nature of insanity, and the mode of dealing with the insane, to which we have referred, no one can look back upon the history of asylum-improvement for the last thirty years without perceiving that the beneficent influence of medicine has exercised a most powerful sway over the administrative counsels of the nation. Gradually it has become an exception that shocks the public feeling to find a public asylum which is not governed—that is, superintended by a medical man. It is a fact, now becoming widely known, that those asylums where the medical officer is not first in authority, or where his just influence is needlessly impaired by meddling committee-men, are precisely those where the patients are worst treated, and where the most frequent occasions of public scandal arise. The further progress of this system, so well inaugurated by the devoted philanthropy and the rare abilities of TUKE, CHARLESWORTH, and CONOLLY, devolves upon the present and rising generation of medical practitioners. TUKE and CHARLESWORTH have passed away. CONOLLY is still amongst us: his countrymen will yet, we fervently hope, hear many lessons of science and wisdom from his lips; but labours and anxieties such as he has undergone in this struggle, entitle him to an honourable repose. These toils, anxieties, and his achievements have done honour to his profession, and shed lustre upon his country. Let it be our care to cherish the memory of his good deeds, and to impart to him that all but highest reward, of seeing his precepts revered, and his example followed.

PAY OF ARMY MEDICAL OFFICERS.

PROFESSOR TUFNELL'S Introductory Lecture to the Course of Military Surgery has again directed attention to the question of Army Medical Reform. This subject, properly considered, is to be estimated as one of much importance, as bearing so unceasingly upon the condition of our army. As brothers in our profession, we look with interest upon all that concerns military surgeons; as citizens, we are earnestly concerned in the welfare of the soldiers committed to their charge. It is not for a moment to be allowed that because they are badly paid and indifferently treated, they would knowingly neglect their trust, or fail to do everything in their power for the benefit of those entrusted to their care; but where no inducements are held out to study,—where no exertion can conduce materially to success,—where, in spite of every effort, the "*res augustæ domi*" must always occupy undue attention,—the best intentioned are apt to throw aside the care which seems useless, and the most zealous to grow indifferent in the performance of duties which bring with them so little reward.

In no profession are there more noble deeds of charity done than in ours; none are more willing to give their free services to those who are unable to make a pecuniary return than are medical men of every degree; but the Government of a rich country is not an object to excite such compassionate consideration, and an English treasury ought not to be too poor [to pay adequately the men whom the nation employs. Such, however, is the plea put forward. It has been acknowledged on the part of the Government that the officers alluded to are insufficiently remunerated; it has been confirmed by a Committee of the House of Commons that their pay ought to be increased, and the only reason given why this has not been done is, that the country is too poor. If the revenue is really too small, one section of the community should not be the only sufferers from the deficiency.. Army medical officers should not be mulcted of a portion of what is admitted to be their due merely because they have not sufficient political power to enforce it. It is in such points as these that great errors are made, the consequences of which often long outlast the original cause. Thus, in the case of naval assistant-surgeons, nothing was done by Government until the whole junior portion of the profession rose *en masse*, and declared their resolution never to enter the service whilst the grievances complained of remained unredressed. This, together with the pressure caused by the war, terminated the contest, as far as they were concerned, and they are now even in a better condition than their brethren in the army. But the natural result of the agitation was, that the service became unpopular, and so it continues to the present day. Thus may it be with the army. The greatest patience has hitherto been exhibited by the military branch of the profession, and even now everything is seemingly quiet and tranquil. But we warn the Government not to presume upon the continuance of such a calm, nor to imagine that, because the profession and the public have hitherto openly manifested but little interest in the subject, they will quietly stand by and see those neglected and oppressed to whom the country owes so much. Last year the issue of a Treasury warrant was looked upon as all but certain; nay, it is said that it was actually in print, but was withheld on the plea of poverty, and now all are hopefully looking forward to the commencement of the military year, next April, for the realization of their long-deferred expectations, and the redress of their often-urged grievances.

Of course the question of increased pay, as regards the medical officers themselves, is looked upon as the one of first importance; for we apprehend that the system of competitive examinations, for instance, would but little apply to a service which could not hold out decent inducements for candidates to offer themselves. We should be glad, however, to see also the subject of relative rank placed upon a different footing. An assistant-surgeon now enters the army with the rank of lieutenant; and whenever he is appointed to a regiment, he ranks of course as the junior lieutenant in it—a position which hardly secures him that amount of consideration which is desirable for an officer whose duties often are of a somewhat delicate nature when exercised in connexion with those who are his familiar associates. These and other considerations induce us to believe that an assistant-surgeon should, at any rate, rank as junior captain to his regiment; and that, at the same time, the surgeon and other grades should have their rank correspondingly raised. Whatever the details may be, it is sincerely to be hoped that another session of Parliament may not pass over without Government being called upon to issue the long-promised warrant; and we trust that the whole profession will unite their efforts in endeavouring to secure the performance of those promises which have been so long held out to their military brethren.

SCOTLAND.

(FROM OUR EDINBURGH CORRESPONDENT.)

THE result of the election for the Council of the Royal College of Physicians is alike satisfactory to the profession generally as it is creditable to the good taste and judgment displayed by the fellows in their choice. Dr. Macalagan is president, Dr. J. Begbie vice-president, and the other members of the Council are Drs. Robert Christison, J. B. Malcolm, C. Bell, Seller, and Peddie. By this it will be seen that a complete revolution has been effected. While some fellows of the College wish to combine the College of Physicians with the College of Surgeons, others are desirous that, if any combination be necessary, it should be joined with their Alma Mater. In this election the advocates of the latter have triumphed. Thus two successes have been gained by the majority of fellows.

The first ordinary meeting of the Royal Society took place on Monday evening, the 1st of December. An eloquent opening address was delivered by Bishop Terrot, who made a pathetic allusion to the members who had died during the past year, mentioning especially the names of Ballingall and Madden. The Rev. gentleman passed a graceful eulogium upon their scientific acquirements and private worth. A communication was read before the Society by Joseph Lister, Esq., on "The Minute Structure of the Involuntary Muscular Tissue." The paper displayed considerable research, and was listened to with marked attention. At its conclusion Dr. Alison complimented Mr. Lister upon the acquisition his observations would prove to science. Professor Bennett also congratulated him upon the results he had arrived at—his proofs of the contractility of the minute vessels. The professor said that last summer he had made careful experiments upon a frog. Carefully securing and chloroforming it, he had applied hot water as a stimulus. The vessels thereupon contracted from 7 to 5, and 13 to 8, according to their measurements; those which did not were filled with blood corpuscles. Mr. Paget had said that, upon applying stimuli to a frog's foot, the vessels were paralysed: this was now fully proved to be erroneous. Mr. Wharton Jones had stated that, instead of being contractile, they were inert tubes; but Mr. Lister's paper and careful experiments enabled them to arrive at different results. It appears that Professor Bennett and Mr. Lister differ but slightly. Mr. Lister says the minute vessels are arteries, and the professor believes them to be capillaries. This will, however, soon be determined, and then we may hope for an elucidation of all the mysteries involved in the word "inflammation."

At the Royal College of Surgeons, on Friday evening, the president and fellows held their first *conversazione* for this season. Dr. Andrew Wood, the president, having made some suitable introductory observations, announced that during the present season lectures would be delivered by

Professor Balfour, G. Wilson, Allen Thomson, of Glasgow, Dr. Sanders, &c. Mr. Lister then delivered a lecture on "The Early Stages of Inflammation," as evident, under the microscope, in the foot of a frog. The lecture was a more elaborate account of the views which Mr. Lister detailed the Monday previously at the Royal Society; and at its conclusion Professor Goodsir moved a vote of thanks to the lecturer, expressing his opinion of the originality and value of his researches. Professor Bennett seconded the motion, which was carried unanimously.

The matriculations at the University up to this date number 1,245, of which 454 are medical students, 592 literary, and 199 for the law classes.

News Items, Medical Facts, &c.

The Army Medical and Surgical Society.—The first meeting of this Society was held on the 6th inst., the Director-general in the chair. Several interesting cases of aneurism were related.

Testimonial.—A handsome gold watch is about to be presented to Mr. Milson, of Hanging Heaton, Yorkshire, formerly of Swineshead, Lincolnshire, by the inhabitants of the latter village: It bears the following inscription: "Presented to Mr. Richard Odlin Milson, Surgeon, by a few who valued his friendship, whilst practising at Swineshead. Christmas, 1856."

Appointment.—At the last Special General Meeting of the Farringdon Dispensary and Lying-in Charity, Dr. Rogers was unanimously elected Physician to that charity, in the place of Dr. Ballard, resigned.

Professor Sands Cox.—A very influential meeting was held a short time since, at Birmingham, for the purpose of raising a subscription for a testimonial to Mr. Sands Cox. It is probable from the discussion which took place, that the testimonial will consist of a scholarship in the Queen's College, in connexion with Mr. Cox's name. Upwards of £500 were subscribed in the room.

Sanitary Precautions at the Antipodes.—Mr. Guy, surgeon, of St. Marylebone, who some time back brought forward, in the vestry of that parish, the important question with respect to the desirability of prohibiting the use of street-cabs and public vehicles for the removal of persons suffering from contagious diseases, and also for funerals, has received a communication from Maitland, a new town near Melbourne, in which steps have been taken to abolish the evil complained of, and for the adoption of proper vehicles for the conveyance of the sick to the hospitals.

Sale of Poisons in Prussia.—The following is extracted from a letter in a recent number of *The Times*:—"The other day I wanted some corrosive sublimate to dress my dried plants, to prevent the ravages of insects. I got it from Stargardt, but there came with it a *giftechein*—a paper specifying the name of the chemist who sold it, the quantity bought, and the date, and this I had to sign, seal, and return, when it was sent to the Bureau de Police; so that it could not be used by me without its being easily traced. The chemist is also bound to put on it a distinctive label, stating that it is poison; the one he put on was ornamented with a death's head and cross-bones in the middle and a little monumental cross at each side. Would it not be a good plan to be adopted in England?"

M. Pirogoff, the Professor of Surgery at the Medico-Chirurgical Academy of St. Petersburg, contemplates retiring from the more active duties of the profession. It may be known to some of our readers that this distinguished operator—moved partly by professional enthusiasm, partly by patriotism (for he is said to entertain ultra-panslavic notions)—gave up one of the most lucrative practices in Europe, and went to the seat of the late struggle. Frightful stories were current in Petersburg, during the war, of the amount of labour he and his compeers had to perform. For obvious reasons, the majority of the wounded requiring serious operations were taken to subterranean rooms; the drainage of these being imperfect, at certain periods they resembled slaughter-houses; hence, in some measure, the great mortality amongst the surgeons. It was reported, that having done active duty during the greater part of four days and nights, with his feet frequently up to his ankles in blood, his state excited much anxiety. He persisted in remaining at his post, in spite of earnest entreaty to leave and recruit his health. The General-in-Chief, in order to save so valuable a life, commanded his removal to a place at some distance from the immediate seat of hostilities. M. Pirogoff is at present engaged in preparing for the press an account of the last dissections made under his superintendence, illustrative of the pathology of cholera. This elaborate work will of course be published at the expense of the State. The plates will be on a large scale.

Extraordinary Longevity.—"The Times" obituary of the 12th instant records the deaths of *seven* individuals whose united ages amount to 606, giving an average of eighty-six years and rather more than six months to each person, the youngest of whom was 76 and the eldest 101 years. The same paper, of the 15th instant, also records the death, with a short account of Jane Garbutt, who died at the village of Wellbury, North Riding of the county of York, on the 10th instant, aged 110. The village is celebrated as the birthplace of the renowned Old Jenkins.

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A Course of Lectures
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BY W. TYLER SMITH, M.D.,

PHYSICIAN-ACCOUCHEUR TO ST. MARY'S HOSPITAL, AND LECTURER ON MIDWIFERY AND THE DISEASES OF WOMEN IN ST. MARY'S HOSPITAL MEDICAL SCHOOL.

LECTURE XXXV.

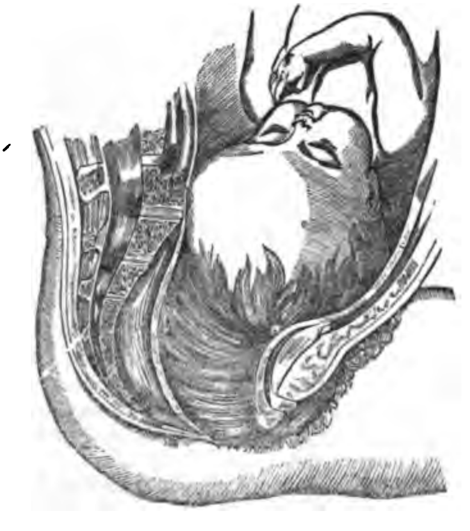
DIFFICULT LABOURS DEPENDING ON THE STATE OF THE OVUM.

GENTLEMEN,—This form of Dystocia may depend upon dropsy of the different serous cavities of the fœtus; tumours or distensions of other parts of the body; colossal size of the fœtus, without relative disproportion; morbid ossification of the joints of the body generally, and especially of the cranium; the various teratological monsters and errors of development; twins; shortness of the funis umbilicalis, and excessive rigidity of the membranes. Of all these impediments to natural delivery, Hydrocephalus occurring in the fœtus is the most important, and to this complication I shall first direct your attention.

Hydrocephalus may occur to the fœtus in utero to such an extent as to interfere with labour, or render it altogether impossible. The size which the head sometimes attains in these cases is enormous. Several pints of fluid have been known to escape after perforation, and Merriman mentions a case in which the head, the circumference of which measured twenty-two inches, was born alive by the natural efforts, the average circumference of the head measuring about fourteen inches. In these cases, the bones are generally thin, the fontanelles large, and the sutures membraneous and gaping. Hydrocephalic children may present with the head; but, as formerly mentioned, there is in these cases a great tendency to the presentation of the pelvic extremity of the child. When the head presents in hydrocephalic cases, the symptoms are, arrest of the head above the brim of the pelvis, there being no deficiency of the expulsory action, and no pelvic or other impediment to the descent of the head on the part of the mother. When examined, the area of the cranial surface, which may be reached by the finger, is flatter than usual, conveying the impression of belonging to a larger spheroid than the natural fœtal head. The bones are usually thin, and the fontanelles, when they can be explored, are beyond the natural size. Under the influence of strong pains, and when labour has been of long duration, the rounded shape of the head is altered, the edges of the cranial bones can be felt through the fontanelles or sutures; fluid can be detected, somewhat like the fluid when the amnion is unruptured and the membranes are more dense than usual. In the irregularity and projection of the edges of the bones, the hydrocephalic head resembles the head of the premature fœtus, or of the fœtus at the full time with the head imperfectly ossified, only that in the case of hydrocephalus the size is greatly increased. When the fœtus is dead, the flaccidity of the hydrocephalic head is commonly greater than usual. When the pains relax, this sense of fluid disappears. In breech or footling cases complicated with hydrocephalus the diagnosis is more difficult. There is in such cases a natural descent of the pelvic extremity of the body of the child until the head comes to engage in the pelvis, when a sudden arrest takes place, notwithstanding the continuance of strong and regular pains, and the portion of the head of the child which can be reached gives the impression of a large, loosely ossified cranium. The limbs of the child are generally shrunken or wasted.

It might be supposed that in a case of hydrocephalic head, when the bones are thin, and readily compressible, labour would take place easily and without bad results. Such is not, however, the case. As just mentioned, cases do occur in which hydrocephalic heads considerably above the average circumference pass through the pelvis without assistance, but these are exceptions, and a favourable result by the natural powers should not be depended on when the amount of fluid is large. The cause of the difficulty depends not only on the large size of the head, and in some cases upon its extensive ossification, but on the loss of the proper cranial shape under pressure, and the consequent want of due mechanical relation between the head and the screw-like arrangement of the pelvis. The head passes through as a matter of brute force, instead of in the rotatory manner naral to the well-formed fœtal head. There is not only difficulty as regards the actual passage of the head, but danger to the mother, in these cases. Left to themselves, such cases are almost sure to be attended by serious results. The uterus may be ruptured, or the vagina lacerated, by the force of the pains; or exhaustion may be produced. The head of the child, instead of preserving any definite relation to the pelvis, is jammed into the cavity, as insisted upon by Dr. Ramsbotham, so as to fill it equally in all directions. The irregular edges of the bones are liable to damage the soft parts, and numerous cases are on record in which inflammatory action, sloughing, and death have been thus caused. Occasionally, a spontaneous resolution of the difficulty occurs by the rupture of the head, and escape of the contained fluid, under the pressure of the pains. This happens more frequently when the fœtus is dead, and partially decomposed, than under other circumstances. Dr. Robert Lee, Dr. Simpson, and others have pointed out that in some cases there is not merely expansion of the head, but the cranial bones are greatly developed, and the sutures comparatively closed. Of course, under these circumstances the difficulties of delivery are greatly increased. Out of seventy cases collected by Dr. Thomas Keith, he remarks the significant fact that the uterus was ruptured in sixteen. The mixture of solid and fluid pressure brought to bear on the os uteri and the vagina in case of hydrocephalic births, is perhaps greater than under any other circumstances whatever. In five cases to which Dr. Lee was called in consultation, and which are related in his "Clinical Midwifery," the mothers all died, either from inflammation or rupture of the uterus; but he observes that, had perforation been performed sufficiently early, some or all of them might have been saved. In hardly any of the emergencies of midwifery is an early diagnosis and prompt action more imperatively called for.

FIG. 145.

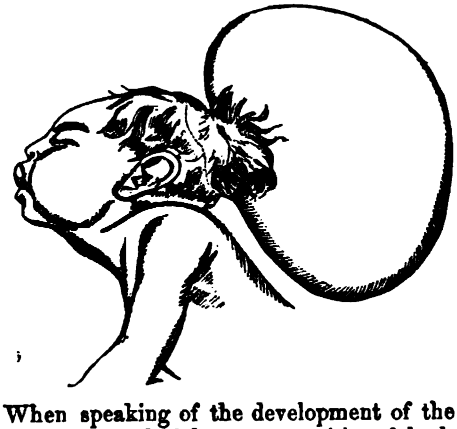


The treatment of these cases is sufficiently simple, when an accurate diagnosis has once been made. We must evacuate the fluid when the size of the head is so great, and the progress of the labour so slow, notwithstanding effective pains, as to lead to the conclusion that the case cannot be safely left to a natural termination. In many of these cases, the child is already dead, or dies during labour, in which case all scruple respecting craniotomy will of course disappear. When the life of the mother is in imminent danger, the perforation of the head may be more cheerfully performed than in almost any other cases, as the chances of living after birth are so slight, even when most favourable, that we cannot compare them with the life of the mother, to the extent we are sometimes warranted in doing when the fœtus is strong and healthy. Every care should be taken to make out such cases with accuracy, as it would be a grievous mistake to perforate the head of a healthy fœtus, instead of a hydrocephalic child. Time should also be given to make the case clear, but without waiting so long as to endanger the serious injury of the mother. After the perforation of the head, the escape of fluid generally diminishes the size of the head to a greater extent than occurs in craniotomy under any other circumstances, and delivery is generally easy. Sometimes, the head is perforated for arrest, when hydrocephalus has not been suspected, when the sudden escape of the fluid gives the first indication of the nature of the case. Dr. Simpson suggests that the perforation of the head by a small trocar may be preferable to the use of the perforator and scissors, as by this means the fluid can be evacuated and the head diminished so as to render delivery possible, without necessarily destroying the child. He also throws out the hint, that in pelvic presentations, in hydrocephalic cases, the fluid may be drawn off by opening the vertebral canal in any part of the spine.

Ascites is another form of dropsy to which the fœtus is liable, and which sometimes exists to such an extent as to interfere with labour. This may be confounded with tympanitis occurring in a dead child; but, as Dr. Fleetwood Churchill remarks, in tympanitic distension there is generally crepitation from the presence of air in the cellular tissue of the face and chest, when the head presents and has been delivered first, in such cases. Ascites may also be mistaken for excessive secretion of urine, and its retention in the fœtal bladder, as pointed out by Depaul. The proper treatment in cases of ascites is, to puncture the abdomen of the fœtus and evacuate the liquid. This paracentesis should be performed by means of a long fine trocar. While speaking of ascites, it may be mentioned that, from adhesion or stricture of the urethra, the fœtal bladder may be distended to such an extent as to reach the scrobiculus cordis. Such a case could hardly be distinguished from ascites; and if this were possible, the treatment—that of puncture of the accumulation by the trocar, when it interferes with labour—is the same.

In connexion with these forms of dropsy, we must discuss those cases of accumulation of serum in the serous cavities, particularly of the brain and spinal marrow, attended by deficiency of the bones, muscles, and integuments, forming Spina Bifida, and which are sometimes so large as to interfere with the progress of labour. Dr. Meigs describes a case of dropsy of the head, combined with fissure in the posterior walls of the cranium, where the extra-cranial tumour was in its greatest length nine inches long. Ruysch relates one in which the tumour was as large as the head itself. I have seen a case in which the tumour was considerably larger than the head, and the subject of it lived until after the time of puberty, the cerebral development being very small. The head was carried forward, and the tumour rested on the shoulders in standing or walking. Similar tumours may form at any part of the spinal column, but they are more frequent in the cranial and sacral regions than in other parts. When not of large size, they impede labour but little. In the case referred to by Dr. Meigs, and which is figured below, the head was born first, when, the tumour remaining above the pubes, the rest of the body was born by spontaneous evolution. After this, Dr. Rohner, the attendant, was able, by powerful traction, to bring down the watery tumour without injury.

Fig. 148.

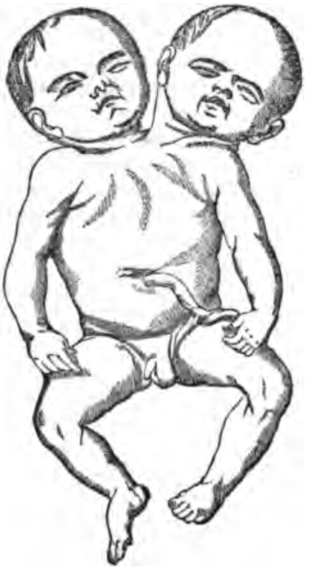


When speaking of the development of the serous amnion, and of the serous cavities of the body generally, by the processes of inclusion and separation of the various parts of the serous layer of the early ovum, I have mentioned that, in some cases, the same secretion of serum which is physiological in the amnion is apt to take place in the serous membranes of the young fœtus, when it becomes pathological, constituting the first forms of dropsy in the animal economy. All the serous accumulations we have now been discussing, in the brain, spinal marrow, and peritoneum, arise in this way, as the result of inflammation or erratic development, and are frequently found to exist in combination with dropsy of the amnion itself. In the case of serous tumours of the head and spine and other tumours in which the serous membranes are protruded externally, there is, in addition to excessive serous secretion, deficiency of the development of the bones, muscles, and integuments, all of which are developed from the primary serous layer. When there is malformation as well as serous tumour, the case is probably dependent on an error of development; where there is no malformation, inflammation of the serous membranes has generally existed, and the evidence of this is frequently found in post-mortem examination.

Teratology presents us with a number of monstrous combinations of twin children in which either two fœtuses are fused together to a greater or less extent, or in which they are joined together without any great extent of organic union. There may be two heads with only two arms and two legs, the bodies being fused from the neck to the sacrum, or there may be the same extent of union with four arms and four legs; there may be one head and a large trunk composed of the fusion of two bodies, possessing four legs and four arms. In the case of two children perfectly formed or nearly so, but united at one point, the union may occur at different parts of the body. The forehead or vertex of two children may be united. The union may be at the side, or at the sternum, or by means of the intestine only, at the umbilicus. The sacrum is another point at which union takes place in these cases. The union or fusion is always symmetrical. In accordance with that plan of development in twin cases, alluded to in the embryological portion of the present Course, it is only the same parts in opposite children that admit of union—that is, it is head to head, side to side, sacrum to sacrum, and never any heterogeneous union which occurs.

These cases are happily rare, and they present unusual difficulties to the completion of labour. It might seem impossible that in such as that figured below, natural delivery should be effected, did we not know that these monsters are not only born, but, as in the case of the Siamese twin, the African twin recently exhibited, and a number of other well-known cases, the double monsters have lived, and have even reached maturity. Favourable circumstances must concur to enable double monsters to be born alive. The children must be small or premature, and the pelvis full-sized. But little is known of the mechanism of parturition in monsters. In the case figured, which is related

FIG. 147.



by Dr. Meigs, spontaneous evolution occurred. One head came down first; this was delivered, and became fixed against the pubic arch, when the body came down in the manner described when speaking of the process of evolution in arm cases, the second head being delivered last. Dr. Meigs points out that it can only be by this method that double monsters are generally delivered. Even when the feet present, and the union is at the sacrum or any part of the trunk, after the delivery of the buttocks, the upper part of the body and head must descend by a process of evolution. We do, however, know that, in twin cases, it happens at rare conjunctures, that the two heads, or the head of one child and the pelvis of another, engages in the pelvis simultaneously. In such a case as the Siamese twin, it is impossible to conceive but that if a head presented in the first instance, one child must have been delivered down the point of union, when the rest of the same fœtus must have been delivered by a method similar to that of spontaneous evolution. Such cases afford the proof that, in some instances, both children may be born living, and viable. But in many cases on record, it has been necessary to diminish the child by amputation of the head and evisceration. Such cases are puzzling to the accoucheur in the first instance, and no rule of diagnosis can be given for them. The obstetrician must depend upon his general knowledge and resources for the detection and management of such cases. At first they must prove exceedingly perplexing, but they gradually reveal their true nature as the course of labour proceeds. The same principle must be followed in these as in other cases where, from disproportion, the living child cannot pass with safety—namely, delivery, destruction, evisceration, and mechanical delivery of the remnants of the twin monster. The law takes the same cognizance of monsters as of normal children. In destroying the fœtus we must not at all take the fact of the monstrous birth into consideration, save in so far that it becomes an additional difficulty in delivery, and a greater probability than usual that natural delivery cannot possibly be effected. When women have been delivered naturally in such cases, great suffering, and subsequent inflammatory disorder, have been recorded. The possibility of using the forceps, as an aid to delivery in such cases, can only be decided on by individual peculiarities: certainly no rule can be laid down.

The different forms of Ectopy, in which from faulty development of the parietes of the body at the mesial line, organs which should be internal are external, in the rare cases in which they occur, sometimes complicate labour. In cases of Exomphalos, when the liver or intestines have protruded through the umbilicus, the tumours have been met with of very large size. Large bulk of the child, without disproportion, is a common cause of difficulty. The average weight of the mature fœtus is, as remarked by Dr. Rigby, from six to seven pounds; but he refers to cases occurring in the practice of Dr. Merriman, Sir Richard Croft, and others, in which the fœtus weighed fourteen, fifteen, and nearly eighteen pounds at the time of delivery. When, in these cases, the bones of the head are ossified as much as usual, the difficulty is often very great. The largest children I have met with in practice have been in cases where, from pendulous abdomen, the fœtus had been retained beyond the full term, and where the difficulty of labour had been increased by weakness of the abdominal action during labour. The obstruction produced by increased bulk may be in some degree estimated by the fact that the slight difference between the size of the male and female at the time of birth greatly increases the rate of mortality, in the case of males, both to the mother and child. In extremely rare cases, the whole of the articulations have been ossified to such an extent as to interfere with the passage of the child. Sometimes the cranial bones are prematurely ossified, so that the bones are as firm and the sutures as consolidated at the time of birth, as they should be at four or five years of age. From cases of this kind which have fallen under my observation, I suspect that this may be one cause of idiocy, by mechanically preventing the development of the brain.

In twins, there is generally considerable difficulty and delay in the birth of the first child. The presence of the second fœtus causes the uterus to act upon the first at a great mechanical disadvantage. Labour in twins and triplets in the human female, is somewhat similar to delivery in cases in which animals bring forth several young at a birth; but, as I have formerly remarked, there is not in the uterus and vagina of the human subject the same facilities for the descent and expulsion of successive children. In some cases, shortness of the funis, or twisting of the cord round the fœtus, forms an impediment to labour. Naëgelé and some other authorities have doubted that shortness of the cord can act in this way. Plenty of cases are on record, however, in which difficult labour occurred in connexion with shortness of the funis. If the cord, as is sometimes the case, is only so long as to suspend the fœtus in utero, there must be a difficulty in expelling the fœtus, even if the fundus uteri follows the child, since the fœtus is curved and bent in utero, but is extended during its way through the maternal passages. Dr. Rigby relates a case in which the cord was little more than two inches long, and in which it was ruptured during the birth of the child. Probably shortness of the cord is a predisposing cause of inversion of the uterus. Rigidity of the membranes is a common but easily remediable source of delay in labour. They are, however, sometimes so tough, that no efforts of the uterus can rupture them, and they require artificial puncture. We are in want of some efficient instrument for puncturing the membranes, as the finger-nail is a very clumsy and sometimes embarrassing method, besides that the scalp of the child sometimes gets damaged by its use. Probably an instrument constructed on the principle of that used for puncturing the membrana tympani would be the best that could be devised for this purpose.

LECTURE XXXVI.

POST-PARTUM HÆMORRHAGE.

Gentlemen,—There is scarcely an occurrence in the whole range of obstetric practice more alarming or dangerous than Flooding after the birth of the child. This tragic complication of labour often happens, too, when the patient is supposed to be free from danger, and when the accoucheur, fatigued by a long attendance, is congratulating himself upon the completion of his duties. There can be no contingency in which the life of the patient depends so completely on the coolness, decision, and promptitude of the attendant. Nothing, indeed, can more thoroughly tax his highest skill, and the whole of his resources, than the spectacle of a woman in imminent danger of death from this form of hæmorrhage.

Let us, in the first instance, consider the circumstances under which patients are predisposed to this accident. The chief sources of flooding—namely, the open mouths of the veins on the internal surface of the uterus, from which the placenta has been separated, have already been pointed out. It has also been shown that the great natural defence against hæmorrhage lies in the efficient contraction of the uterus after delivery. Whatever tends to enlarge the venous openings, or to prevent the contraction of the whole organ, necessarily tends to the production of hæmorrhage. Thus, a large placenta, from the greater size of the utero-placental vessels, gives the tendency to flooding. For the same reason, post-partum flooding, after delivery at the full term, is far more dangerous than hæmorrhage occurring after premature labour. The circumstances which interfere with efficient uterine contraction after delivery, or produce inertia, are many of them the same as those which lead to powerless labour. Post-partum hæmorrhage is, in fact, one of the sequelæ of uterine inertia. Amongst these circumstances are, a general relaxed habit of body, weakness of the abdominal muscles, and umbilical hernia. Such conditions are frequently found in the greatest degree, in women who have resided in tropical climates. They occur also in women who have borne large families, as explained when treating of uterine inertia. The uterus often flags when labour has been long delayed from any cause, whether the womb be simply inert, or worn out by prolonged action. Thus the organ frequently refuses to contract after labours in which the forceps or craniotomy have been required. The same result may spring from exactly opposite causes. After a very rapid labour, or after the extraction of the body immediately upon the birth of the head, the uterus may suddenly fall. It has not been fully and gradually roused to that powerful state of contraction which ensures the safety of the mother after delivery; or, too suddenly becoming empty, it refuses to contract, just as we sometimes witness to be the case after the sudden evacuation of the liquor amnii. I have pointed out that, in labours occurring in women suffering from albuminuria, the womb often remains flaccid after delivery to such an extent as to cause dangerous hæmorrhage.

The symptoms of post-partum hæmorrhage are those which belong to the uterus itself, and those arising from the effects of loss of blood. The hæmorrhage may occur before the expulsion of the placenta, and immediately after the birth of the child, the placenta being detached, but remaining in utero, or in the vagina; or it may take place only when the after-birth has been expelled. The most sudden and profuse losses are those which occur when the placenta, having separated without being expelled, distends the uterus, and enlarges the area from which the blood escapes. The first sign we have of hæmorrhage may be a gush from the uterus, and the accoucheur first learns the contingency he has to deal with, by hearing the plashing of the blood upon the floor. I may here mention a circumstance which sometimes alarms us unnecessarily. In cases where the head of the child has so accurately fitted the passage as to act as a ball-valve, the principal part of the liquor amnii remains, and gushes out after delivery, mixed with the blood effused from the separation of the placenta by the pains which have expelled the child. When the hot stream comes upon his hand the accoucheur may suppose it to be hæmorrhagic, but the eye soon distinguishes the real state of things. Where the gush of blood is enormous, and occurs immediately after delivery, the uterus and vagina are dilated, and there being no impediment to the free escape of blood externally, the clothes of the patient and the bed are drenched with blood. Sometimes the mischief is hidden, and an immense quantity of blood may escape from the uterine vessels without any discharge externally. The body of the uterus is dilated, but the os is contracted, or plugged with coagula, and the blood accumulates in the uterine cavity. Under these circumstances, the organ remains in a state of persistent atony, not the slightest effort at contraction is made, and as a muscular organ it is in a perfect state of paralysis or death. When the abdomen is examined by the hand, the womb is felt to be large, soft, and flaccid, and altogether unlike the dense organ in a state of normal contraction. In other cases, the hæmorrhage may be intermittent. There is marked relaxation of the uterus, followed by intervals of contraction. During the state of dilatation, little or no blood appears externally, but gushes of blood or coagula take place every time the uterus contracts. In such cases, the uterus is felt externally to be in a state of alternate relaxation and contraction, the contractions, especially, being attended by severe pain. Sometimes great agony, without efficient muscular contractions, is felt while the uterus is being distended by coagula. There are yet other cases, in which the uterus contracts moderately, but in which there is a constant and dangerous oozing of blood. It has been said by some authorities, particularly by Gooch, that hæmorrhage may co-exist with powerful contraction of the uterus. But this is not to be received without reservation. In such cases there is generally a retention of some portion of the placenta. With the cavity of the uterus free and uninjured, and continuous contraction present, dangerous hæmorrhage from the venous sinuses is a mechanical impossibility; and it weakens our faith in the great means of arresting hæmorrhage, to believe that contraction and hæmorrhage may occur together, save under exceptional circumstances. Fulness of the circulation was supposed to be a cause of hæmorrhage, the blood escaping in large quantities from the exposed extremities of the uterine arteries, after the entire or partial separation of the placenta; and bleeding from the arm was advised and practised as a remedy, under the idea of diminishing the momentum of the current from the heart. Such cases rarely, if ever, happen to such an extent as to cause uneasiness, at the present day, and few persons would now dream of venesection in post-partum flooding. If such a remedy could be necessary, it is too surely in operation, from the hæmorrhage itself. Minor hæmorrhages may occur from limited lacerations of the os uteri, the vagina, and the perinæum, but these are seldom, if ever, attended by danger. Occasionally, flooding occurs to a considerable extent some hours or several days after the completion of delivery. When this occurs, it is probably similar to the losses which occur in menorrhagia. After labour, as formerly shown, the whole of the decidua is thrown off from the internal surface of the uterus, leaving a large surface from which the blood constituting the lochial discharge exudes. We can easily understand that profuse lochial flooding may occur, when we consider the larger superficies of the uterus after parturition, and that its internal surface is in much the same state as that which obtains during menstruation. The tendency to loss of this kind is necessarily increased by flaccidity, or large size of the uterus. This condition, or the detachment of portions of placenta which have remained in utero, gives rise to the floodings under consideration. In the cases where the lochial discharge has continued for several weeks after delivery, I have found the loss to depend on laceration or abrasion of the os uteri, and the blood exudes chiefly from the surface of the os and cervix, as in the majority of cases where the spurious menstruation of pregnancy exists

The Effects of the loss of blood are most appalling to witness, and would require a dramatic pen to do full justice to their portraiture. In the most formidable cases, the great mass of the blood may be withdrawn from the body in the space of a few minutes. The woman may suddenly fall into a mortal syncope, from which she never recovers. When the effects are more gradually induced, the pulse fails, or is not to be detected in the limbs; the respiration becomes gasping and diaphragmatic, the patient crying wildly for air; she loses her sight, and complains that everything about her is dark. Sometimes jactitation is present, and she tosses her arms and limbs about wildly, and with such violence, as to exhaust her remaining strength; at others, she manifests an almost irrepressible desire to sleep, when, if permitted, her repose would be the sleep of death. Vomiting frequently occurs; sometimes convulsions are produced; the surface of the body, especially the extremities, are cold, and bedewed with sweat, and a pallor which exceeds all others, and which may be termed the Puerperal Pallor, almost represents death itself. The symptoms I have mentioned, if permitted to continue, are the sure evidences of a state of the utmost peril, or the harbingers of dissolution itself. When the patient perishes, it is either from successive syncopes during the course or after the arrest of the hæmorrhage, or she dies by the process of gradual sinking some hours after labour. The danger of the patient must be estimated from the symptoms as much as from the amount of blood actually lost. Some women die after a very moderate loss, while others bear an immense flooding, and recover with great rapidity.

The first point in the management of post-partum hæmorrhage relates to its Prevention. Where there have been any circumstances connected with the labour, which leads us to fear hæmorrhage, one or two doses of ergot should be given during the last pains which expel the child, or immediately after its expulsion, and before the extraction of the placenta. This plan should always be followed in cases where women have suffered from flooding in several successive labours. Immediately after delivery in suspicious cases, the hand should be placed upon the abdomen, and kept there until efficient contraction is felt to have taken place. An abdominal bandage should be placed lightly round the body, before the completion of labour, so as to have it ready if necessary without disturbing the patient. The horizontal position should of course be strictly preserved. Sleep, immediately after labour, should not be permitted, and the vulva should from time to time be examined, to learn the amount of discharge. As soon as the uterus is found to have contracted, the abdominal bandage, with a compress of two or three folded napkins, should be applied. I have known cases where I have been obliged to attribute a fatal result from hæmorrhage to the neglect of bandaging after delivery.

In the treatment of post-partum floodings, we have two things requiring instant attention, one being the arrest of hæmorrhage by uterine contraction,—the other, the sustentation of the patient under the immediate effects of loss of blood. As I have pointed out in my work on Parturition, we have a good many powers to appeal to for inducing uterine contraction. There is the reflex contraction of the uterus, as when we dash cold water upon the vulva or abdomen. There is the direct spinal excitation of the uterus, when we act not upon the excitor nerves of the surface of the body, but upon the spinal marrow itself,—as when we give ergot. There is the peristaltic action of the uterus and the contraction depending on muscular irritability of the uterus itself, which we call into operation when we manipulate the uterus, or excite it by galvanism. We can also imitate contraction of the uterus, to some extent, by mechanical compression; and we can exert pressure upon the great vessels through which the blood is poured into the uterus before it escapes from this organ.

In practice, and in the worst cases, the uterus should be grasped and held firmly by the hands, through the abdominal parietes. This excites the peristaltic and reflex action of the uterus, and compresses the organ mechanically. When the uterus is got well under control in this manner, flooding to any extent is impossible. Several doses of the ergot should be administered in quick succession, and cold—or, if in summer, iced—water should be dashed upon the vulva and abdomen. Douching with a wet towel, or a stream of water from a height, upon these parts, is very effectual in rousing the uterus to contraction. The time during which it is necessary to grasp the uterus is often very considerable. When these means fail of entirely arresting the hæmorrhage, the hand should be introduced into the uterus, and the internal surface excited by the knuckles of the closed hand. I have not the same dread as many accoucheurs have of introducing the hand into the uterus, and, as I have once or twice insisted on in these lectures, I believe, in the present day, more mischief is caused from a kind of fear of the uterus, and of interfering with it, than from bold and intelligent efforts to control it. The hand should always, if possible, be washed before its introduction. With the hand in the uterus, it becomes more easy to grasp and compress the organ. As an addition to the introduction of the hand, where the uterus is felt to be in a state of atony or paralysis, I have injected cold or iced water, in a full stream, into the cavity of the organ, and in this way I have several times rescued women from an apparently hopeless condition. I have had no experience of the effects of galvanism in post-partum flooding, but where there was time to bring it into operation, I should have no doubt of its power. With respect to the modes of using reflex action for the arrest of hæmorrhage, it should be mentioned that cold and heat, alternately, are more efficacious than cold continuously used, even when we inject into the uterus itself. It should also be borne in mind that cold is a powerfully depressing agent, and should not be used to such an extent as to weaken the patient. When one reflex surface is exhausted, we may often appeal to another with great effect. Thus, when cold to the vulva and abdomen has been used so long as to lose its effect, cold sprinkled on the face, swallowing a gulp of cold water, giving the patient a piece of ice to hold in her hands, an enema to the rectum, will excite reflex uterine contraction. Whenever coagula collect in the vagina or in the uterus, they should be turned out by the hand. Clots are a source of great irritation, and their presence tends to keep up hæmorrhage. Their removal alone often suddenly relieves the patient of severe spasmodic pain, and stops all loss of blood. In cases of hæmorrhage, where the placenta is only partially separated, or where it is detached from the uterus, but retained in its cavity, the placenta should always be separated and removed, as early as possible. Some practitioners have recommended, under such circumstances, that we should wait a little when the patient is much exhausted before removing the placenta, on the ground that the operation itself, and the removal of the mass of the placenta, tend to produce syncope. We may wait an instant, while we pour some brandy down the patient's throat, but I have seen much mischief from delay beyond this, and never any harm from immediate action. We can make up for the removal of mere mass by external pressure, and every inch by which we reduce the size of the womb increases the patient's safety. Pressure upon the aorta and inferior cava has been recommended by many authors. In extreme cases, Transfusion has been advised, and, when other means fail, I should have no hesitation in recommending and performing it. Some time ago a lady was under my care in whom transfusion was performed successfully by Mr. Soden of Bath, and, from the nature of the case, I have no hesitation in stating my belief that the operation saved her life. This measure seems particularly suited to cases in which patients are slowly dying, by the process of syncope, some hours after hæmorrhage has ceased.

During the continuance of uterine hæmorrhage of any kind, no stimulus is so useful as brandy. In post partum floodings especially, immense clothes of the patient and the bed are drenched with blood. Sometimes the mischief is hidden, and an immense quantity of blood may escape from the uterine vessels without any discharge externally. The body of the uterus is dilated, but the os is contracted, or plugged with coagula, and the blood accumulates in the uterine cavity. Under these circumstances, the organ remains in a state of persistent atony, not the slightest effort at contraction is made, and as a muscular organ it is in a perfect state of paralysis or death. When the abdomen is examined by the hand, the womb is felt to be large, soft, and flaccid, and altogether unlike the dense organ in a state of normal contraction. In other cases, the hæmorrhage may be intermittent. There is marked relaxation of the uterus, followed by intervals of contraction. During the state of dilatation, little or no blood appears externally, but gushes of blood or coagula take place every time the uterus contracts. In such cases, the uterus is felt externally to be in a state of alternate relaxation and contraction, the contractions, especially, being attended by severe pain. Sometimes great agony, without efficient muscular contractions, is felt while the uterus is being distended by coagula. There are yet other cases, in which the uterus contracts moderately, but in which there is a constant and dangerous oozing of blood. It has been said by some authorities, particularly by Gooch, that hæmorrhage may co-exist with powerful contraction of the uterus. But this is not to be received without reservation. In such cases there is generally a retention of some portion of the placenta. With the cavity of the uterus free and uninjured, and continuous contraction present, dangerous hæmorrhage from the venous sinuses is a mechanical impossibility; and it weakens our faith in the great means of arresting hæmorrhage, to believe that contraction and hæmorrhage may occur together, save under exceptional circumstances. Fulness of the circulation was supposed to be a cause of hæmorrhage, the blood escaping in large quantities from the exposed extremities of the uterine arteries, after the entire or partial separation of the placenta; and bleeding from the arm was advised and practised as a remedy, under the idea of diminishing the momentum of the current from the heart. Such cases rarely, if ever, happen to such an extent as to cause uneasiness, at the present day, and few persons would now dream of venesection in post-partum flooding. If such a remedy could be necessary, it is too surely in operation, from the hæmorrhage itself. Minor hæmorrhages may occur from limited lacerations of the os uteri, the vagina, and the perinæum, but these are seldom, if ever, attended by danger. Occasionally, flooding occurs to a considerable extent some hours or several days after the completion of delivery. When this occurs, it is probably similar to the losses which occur in menorrhagia. After labour, as formerly shown, the whole of the decidua is thrown off from the internal surface of the uterus, leaving a large surface from which the blood constituting the lochial discharge exudes. We can easily understand that profuse lochial flooding may occur, when we consider the larger superficies of the uterus after parturition, and that its internal surface is in much the same state as that which obtains during menstruation. The tendency to loss of this kind is necessarily increased by flaccidity, or large size of the uterus. This condition, or the detachment of portions of placenta which have remained in utero, gives rise to the floodings under consideration. In the cases where the lochial discharge has continued for several weeks after delivery, I have found the loss to depend on laceration or abrasion of the os uteri, and the blood exudes chiefly from the surface of the os and cervix, as in the majority of cases where the spurious menstruation of pregnancy exists

The Effects of the loss of blood are most appalling to witness, and would require a dramatic pen to do full justice to their portraiture. In the most formidable cases, the great mass of the blood may be withdrawn from the body in the space of a few minutes. The woman may suddenly fall into a mortal syncope, from which she never recovers. When the effects are more gradually induced, the pulse fails, or is not to be detected in the limbs; the respiration becomes gasping and diaphragmatic, the patient crying wildly for air; she loses her sight, and complains that everything about her is dark. Sometimes jactitation is present, and she tosses her arms and limbs about wildly, and with such violence, as to exhaust her remaining strength; at others, she manifests an almost irrepressible desire to sleep, when, if permitted, her repose would be the sleep of death. Vomiting frequently occurs; sometimes convulsions are produced; the surface of the body, especially the extremities, are cold, and bedewed with sweat, and a pallor which exceeds all others, and which may be termed the Puerperal Pallor, almost represents death itself. The symptoms I have mentioned, if permitted to continue, are the sure evidences of a state of the utmost peril, or the harbingers of dissolution itself. When the patient perishes, it is either from successive syncopes during the course or after the arrest of the hæmorrhage, or she dies by the process of gradual sinking some hours after labour. The danger of the patient must be estimated from the symptoms as much as from the amount of blood actually lost. Some women die after a very moderate loss, while others bear an immense flooding, and recover with great rapidity.

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During the continuance of uterine hæmorrhage of any kind, no stimulus is so useful as brandy. In post partum floodings especially, immense quantities may be taken with the utmost benefit. It is a misfortune that in some cases there is such an amount of gastric irritability that all stimulus and support is rejected by vomiting. This sometimes happens in hysterical subjects, the hysterical element persisting even in the act of death itself. In such cases, small quantities of brandy or beef-tea should be given. The patient should be kept with the pelvis raised and the head depressed, the object being to retard flooding, and supply the circulation of the brain. I have found from experience, that less tendency to syncope is present when the patient lies on her left side than in other positions. Fresh air should be supplied, as by fanning and open windows, and the patient kept with as little movement of the limbs as possible. After the cessation of hæmorrhage, when the effects have been severe, the patient should not be moved at all for some hours after labour, and she should not be allowed to stand, or to sit up during defecation or micturition, for many days, or even two or three weeks, after labour. Many patients have died suddenly from exertion of this kind, taken before they had sufficiently recovered from the loss of blood. When patients have been very much reduced by hæmorrhage, considerable discretion is called for in the introduction of food and support into the system. We must not, on the one hand, push too much nourishment rapidly, otherwise we distend the weakened vessels, and may incur the risk of apoplexy; or, on the other hand, starve the patient, or we perpetuate the state of anæmia.

There is an after-train of symptoms arising from loss of blood, consisting of reaction, particularly affecting the heart and brain, which to some extent imitates active disease. There is violent palpitation, acute pain in the head, violent throbbing of the carotids, and intolerance of light and sound. Great care must be taken not to treat such symptoms by local or general blood-letting, as has sometimes happened. A good diet, stimulants, steel and tonics, are required in such cases.

LECTURE XXXVII.

RUPTURE OF THE UTERUS.

Gentlemen,—This is the most fatal of all the accidents which attend the processes of gestation or delivery, but fortunately it is of rare occurrence. Dr. Fleetwood Churchill has collated 113,138 cases of labour, out of which number it occurred in 85, or about 1 in 1331.

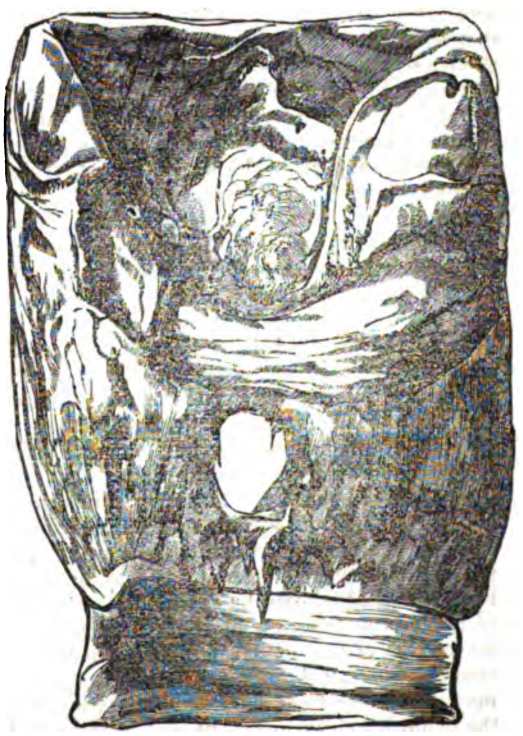
Any part of the uterus may be the seat of laceration. It occurs far more frequently at the junction of the os and cervix with the vagina than at any other part, and it is more common at the anterior or posterior surfaces of the lower segment of the uterus than at the sides of the organ. It may occur at any part of the fundus or body of the uterus, or extend throughout its whole length. Sometimes a rent is made in the cervix, without extending to the rim of the os. In rare instances, the laceration extends to the bladder. Several cases are on record, in which the laceration has been circular in form, and has completely separated the os and a discous portion of the cervix from the rest of the organ. Occasionally, the lacerations are incisiform and numerous, being found immediately under the peritoneal surface; and it has occurred that all the symptoms of ruptured uterus have been caused by separation of the peritoneum from the uterus, and sub-peritoneal effusion of blood, without actual laceration of the fibres of the uterus. In other cases the muscular structure has been torn, the peritoneum remaining uninjured. The reason of the great comparative frequency of the lacerations at the os and cervix is readily understood. It is in this situation that the great amount of the extending forces of the uterus, and the distending forces of the fœtus, are brought to bear in parturition. The reason of the sub-peritoneal lacerations will also be understood, if we bear in mind the anatomical insertion of the fibres of the external layer of the uterus into its peritoneal coat. The shape and the exact direction of the laceration may vary almost infinitely. The edges of the rupture are generally ragged and uneven, and in some cases softened, or even putrid.

Rupture of the uterus occurs in cases where labour has been rapid, and also in cases where it has been protracted. The majority of cases occur, however, in labours which have been under twenty-four hours, and which could not on account of their length be classed as preternatural labours. It may happen at any age, but in the majority of cases on record, women who were the subjects of it have been upwards of thirty years of age. It may, I think, be doubted whether this circumstance arises from increased power, or diminished development, of the uterus in women who are advanced in the childbearing epoch. The presentation of the child has a considerable influence upon the occurrence of the rupture. Out of 303 cases of all presentations collated by Dr. Trask, 16 were arm presentations, or about 1 in 16. As the proportional frequency of arm presentations, compared with other presentations, is only about 1 in 230, we must consider that rupture of the uterus occurs relatively, in a much larger proportion of arm than of other presentations. On the other hand, 2 of the 303 cases, or 1 in 151, were breech presentations. As breech cases occur in about the proportion of 1 to 59 of all presentations, we must conclude that the tendency to rupture of the uterus is less in breech than in other presentations.

It has been stated again and again by obstetric authors that women are less liable to rupture of the uterus in first than in subsequent labours; and by many it is accepted as a proved position in obstetrics, that this accident seldom occurs to primiparous women. Thus, two of the latest and best authorities, Dr. Fleetwood Churchill and Dr. M'Clintock, state that "it rarely occurs with first children," and "it is a well-established fact, that women in their first pregnancies are very rarely the subjects of ruptured uterus." An appeal to statistics will modify this opinion very considerably. Dr. Churchill gives 75 cases, ranging from the first to the eleventh pregnancies, 9 of which were in primiparous women. The particular distribution of these cases was as follows:—As already mentioned, 9 were cases of first pregnancy, 14 occurred in the second, 13 in the third, 11 in the fourth, 2 in the fifth, 9 in the sixth, and 8 in the seventh, the remaining 9 cases being divided in smaller numbers amongst other pregnancies. Dr. Trask, of the United States, has collected 303 cases, ranging from the first to the seventeenth pregnancies, in which 24 occurred in the first pregnancy and labour, 18 in the second, 17 in the third, 21 in the fourth, 18 in the fifth, 16 in the sixth, and a smaller proportional number in successive gestations. Thus, out of 75 cases given by Dr. Churchill, it occurred in first pregnancies in 9 cases; and out of 303 collected by Dr. Trask, 24 happened in primiparous women. If, on the one hand, we take first labours, and compare them with subsequent labours, all grouped together, no doubt the primiparous is less liable to the accident than the multiparous woman. But if, as is the fair way of putting the case, we compare first labours with second, third, fourth labours, &c., separately, we shall find that the primiparous woman is hardly, if at all, more exempt than women in second or third labours, &c. Instead, therefore, of saying there is anything like an exemption in favour of the primiparous woman, all which the facts warrant us in stating is, that the uterus developed for the first time is not more likely to become ruptured than in subsequent pregnancies.

The causes of uterine rupture are, some of them, those circumstances which produce precipitate labour, while others are connected with tardy labour, or depend upon particular conditions of the uterus. Violent uterine action alone, after the rupture of the membranes, when the pelvis and fœtus are of the normal size, may rupture the organ. Before the evacuation of the liquor amnii there is seldom any risk of laceration. The danger of this accident is very much increased where the fœtus is of large size, or where the pelvis is below the natural dimensions. It is liable to happen in quick labours, where the uterine contractions are very powerful, where the child is a little above the usual size, and where the pelvis is only slightly contracted, or where both these conditions meet together. In such cases, the violent contractions tend to tear the os and cervix uteri; the fœtal head contributes to its laceration by distension, and the walls of the organ are at the same time weakened by compression between the fœtal head and the pelvic walls. The sex of the child has a material influence as a cause of rupture. Of 54 cases described by Dr. Collins and Dr. M'Keever, the births were 38 boys and 16 girls. The accident also occurs in tardy labours, when the uterus acts strongly, and when the head is large, as in hydrocephalus, or when the pelvis is deformed to a great extent. In these cases, the most violent and long-continued contractions of the uterus are exerted to overcome the difficulty, and the organ is necessarily bruised by the distorted pelvis and the head of the child. Very much the same state of things is produced by certain malpresentations, as, for instance, when an arm case is left to nature, and the child gets jammed into the pelvis without hope of escape, with a powerfully contracting uterus behind it. The same kind of danger of rupture as that which arises from deformed pelvis is sometimes met with in cases of anteversion, when the head is driven against the promontory of the sacrum. Numerous circumstances predispose the uterus to rupture, such as the occurrence of inflammation in any part of the organ, either during pregnancy or at the time of labour. In the unhappy cases in which pregnancy happens during the existence of cancer uteri, and where the patients go to the full term, lacerations almost inevitably occur during labour. It is also caused by excessive rigidity or occlusion of the os uteri, unconnected with malignant disease. Long-continued compressions of the organ between the head and the pelvis, in difficult labours, tend to this catastrophe, by producing softening of the muscular structure. A considerable number of the lacerations met with in practice depend, in all probability, to some extent, upon feeble development of the uterus generally, or upon some local weakness of the organ. We must not think of the gravid uterus as an organ which is pretty much the same in all women. The uterus of every woman, and it may almost be said of every preg-

FIG. 143.



nancy, differs to a considerable extent. Nothing can be more dissimilar than the thin parietes met with in one organ, and the strong development found in another. Cases are also met with in which some particular part of the uterus is thinner than in others, or in which the os and cervix have not been properly developed. I give above a representation of a very interesting specimen from the Museum of Guy's Hospital, in which the cervix was not developed to a normal extent, and in which a hole was torn in the neck during labour. These cases of preternatural thinness, or of local deficiency, account for those instances of rupture which occur from the contractions or movements of pregnancy alone, or in which laceration takes place in labours not at all remarkable for the violence of the pains, and where the head and pelvis are of normal size. There can be no doubt that in cases where the uterus is feebly developed, or weakened by disease and exhausted action, the contractions of the abdominal muscles must contribute to the rupture of the organ, by urging the head or presenting part of the child through the os uteri. The incautious use of instruments, or their most careful application when the uterus is predisposed to the accident, may cause rupture. Wherever the ergot of rye is given incautiously or improperly, the risk of ruptured uterus is incurred. When given in too large quantities, or when the os uteri is not well dilated, or when the head is larger or the pelvis smaller than natural, there is always danger of laceration. It may even be produced by improper digitation, during the course of precipitate labours. Numerous cases are on record in which the uterus has been lacerated during an examination made at the acmé of a strong pain. There can be no doubt that such irritation of the vagina and os uteri, and the consequent increase in the force of the pains excited in the form of reflex action, have contributed in such cases to the disaster. The attempt to turn when the uterus is in a state of violent contraction, and when the waters have been long discharged, or the attempt to introduce the blades of the forceps before the proper dilatation of the os uteri, have been known to rupture the organ. Various conformations of the pelvis, apart from mere diminution of size, may lead to rupture, such as exostoses presenting rugged or sharp outlines to the uterus, a keen linea-ilio-pectinea, or an acutely pointed ischial spine. Lastly, external mechanical injuries may produce sudden laceration of the gravid uterus, particularly in the latter months of pregnancy. It has happened from falls, kicks, wounds made with sharp instruments, the goring of bulls, &c. Any form of mechanical violence, apart from labour, may either puncture or incise the organ, or rend its walls asunder. In pregnancy, rupture of the uterus may be caused by mechanical injuries, by spasmodic contractions of the uterus (referred by the older authors to movements of the fœtus), and inflammatory disease or imperfect development of the organ. It may also occur from interstitial gestation, when the ovum is lodged in the uterine parietes. All cases of rupture of the Fallopian tube, or of the cyst containing the fœtus, in extra-uterine gestation, may be compared, to some extent, to rupture of the uterus during normal gestation or parturition.

The symptoms which sometimes warn us of impending laceration, are incessant and tetanic contractions of the uterus, under circumstances where the organ cannot be relieved by the descent of the head or presenting part. Whenever obstruction and violent uterine efforts concur, we must be on our guard against this form of danger. Cramp-like pain in the uterus, especially opposite the promontory of the sacrum, or the symphysis pubis, or distressing cramps in the lower extremities, occasionally precede rupture. A constant pain in some region of the uterus during the progress of labour, or in the latter part of pregnancy, is indicative of danger. This kind of pain during gestation, may be indicative of partial metritis, and during labour, of a similar affection, or of severe local pressure. In the majority of cases, however, there are no premonitory signs of the accident which can be depended upon. We must rely for warnings, not so much upon symptoms, as upon a knowledge of the causes which lead to this accident.

The symptoms which denote the actual occurrence of rupture of the uterus, are generally very marked, though cases sometimes occur in which the evidences of the accident are so uncertain that it cannot be positively known until after death. There is usually a sudden, sharp, and excruciating pain, sometimes accompanied by a snap, audible to the patient, and even to the bystanders. With this there is recession of the head or presenting part of the child, and a sudden arrest of the pains. If the laceration be extensive, the child commonly passes through it into the abdominal cavity, and can be felt distinctly through the abdominal walls. A coil of intestine sometimes passes through the fissure, and is felt in the vagina. There quickly ensues upon the rupture, the symptoms of collapse, and the matter ejected from the stomach is of coffee-ground colour, consisting of epithelium and blood exuded from the gastric lining membrane, or bile which has been acted on by the acids of the stomach. There is a sudden gush of blood from the vagina, and blood escapes in considerable quantity into the peritoneal cavity. Another sign of very great significance, pointed out by Dr. M'Clintock, is the sudden death of the fœtus. The action of the fœtal heart ceases suddenly, almost immediately, after the accident; so that, in suspicious cases, the stethoscope should always be used. There are various circumstances, it must be mentioned, which complicate the diagnosis. In some cases, there is no immediate pain of a violent character, but the dangerous symptoms come on some hours, or even days, after the accident. Occasionally, and particularly when the lacerations are sub-peritoneal only, the pains do not cease. Sometimes, when the rent is considerable, the pains are not arrested, and the fœtus does not pass into the perinæum; but cases occur when the rupture only takes place as the fœtus is passing through the external parts. Sometimes the recession of the head is caused by a sudden discharge of liquor amnii, or the head of the first child may suddenly recede in twin cases. As already mentioned, the great majority of cases end fatally. Patients may die of shock, or hæmorrhage, a few minutes after the accident, or they may die after days, or even weeks, of suffering. When the result is protracted, death ensues from peritonitis, or from pelvic or uterine abscess. In some cases, the loop of intestine protruding through the vagina has been strangulated by the contracting uterus, and sloughing of the intestine, or the symptoms of strangulated hernia ensue. In rare cases, women have recovered, and have borne children subsequently; and one or two instances are on record, in which women have lived with the fœtus in the abdomen, as occasionally occurs in the abdominal variety of extra-uterine gestation.

The most important part of the Treatment is that which may be termed the Preventive. This consists in the subdual, as far as possible, of local metritis during gestation or parturition; the induction of premature labour in cases of pelvic deformity; the moderation of excessive uterine action; the promotion of the dilation of the os uteri; and the relief of the patient by craniotomy when the pains cannot be moderated, and the proportions between the head and the pelvis are such as to render the delivery of a living child impossible, before the risk of rupture has been incurred by protracted labour. As regards the means of diminishing excessive uterine action and rigidity of the os uteri, the effects of venesection, tartar emetic, and chloroform, have already been remarked upon.

The Treatment of rupture, when it has positively occurred, demands every attention, both on account of the child, and because occasionally women recover, under such circumstances, from the utmost extremity of danger. The greatest chance of safety is given to the woman by immediate delivery. If the child has passed entirely or partially into the abdomen, the hand should be introduced, and the feet drawn down, and delivery effected as promptly as possible, care being taken not to injure any of the abdominal viscera, or to draw them down through the opening. When the disproportion of size is such as to render the extraction of the head difficult, it should be perforated behind the ear, particularly if the child be already dead. When the head has not receded after rupture, and when the pelvis is full-sized, the forceps may be used; but cases admitting of their application in this contingency are very seldom met with. The general rule is to deliver, under such circumstances, by the perforator and crotchet. This operation requires, however, greater care than usual, on account of the tendency of the head to recede under the use of the instrument. When the child can be delivered promptly by any of these means, the amount of shock and subsequent peritonitis is to some extent moderated. Cases, however, occur in which delivery *per vias naturales* is impossible, either from rigidity of the os uteri, or from contraction of the uterus, and especially of the aperture through which the child has escaped into the abdomen. Under such circumstances, if the woman is in a state to admit of it, and especially if the suffering be great, it is probable that chloroform may be of great use in these cases, by relaxing the uterus, and thus averting the alternatives of abandoning all attempts at relief, or performing gastrotomy. Incisions into the os uteri have been recommended with a similar intention. Under these desperate circumstances, when chance, or gastrotomy, alone remain, what is to be done? Some have said the best practice is to leave the case entirely to Nature, pointing to the extraordinarily rare cases in which the child has been discharged by abscess through the abdominal walls, and the mother has recovered. Others advise the performance of gastrotomy, and the removal of the child, especially if the fœtus be alive. This is, of course, a desperate remedy. It is very questionable which of these two modes of procedure is to be preferred. In cases of great collapse, and when death is imminent, the performance of gastrotomy is not to be commended; but when the patient is strong, and delivery by other means is found to be utterly impossible, without even greater danger than this operation holds out, I think it should be performed. We must, however, be sure of our diagnosis before venturing on so grave a step, particularly as not long since, gastrotomy was performed with this intention in this metropolis, in a case, when, on opening the abdomen, no rupture of the uterus was found!

Immediately after the extraction of the child, full doses of opium are required. During the state of collapse, stimuli should be administered, bearing in mind, however, the peritonitis which ensues if the patient removes. With respect to the general plan of treatment, it may be said that it should be very nearly the same as that recommended in cases of extra-uterine gestation after the rupture of the cyst. Particular points of difference in individual cases will have to be met as they arise.

Clinical Lectures

ON THE

PATHOLOGY OF CATARRH.

Delivered at Charing Cross Hospital.

By HYDE SALTER, M.D., F.R.S.,

FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS, LECTURER ON PHYSIOLOGY AND PATHOLOGY AT CHÀRING-CROSS HOSPITAL MEDICAL SCHOOL, AND ASSISTANT-PHYSICIAN TO THE HOSPITAL.

GENTLEMEN,—We often see the study of particular diseases despised for that very circumstance that imparts to them their chief importance—their commonness. Students of medicine, in general, take the greatest interest in those things which they are the least likely to meet with in after practice. In their language, a *good* case is synonymous with a *rare* case; they are too much affected with the spirit of the Athenians of old, and are ever intent either to tell or to hear some new thing. But you will find by-and-bye that the knowledge you have acquired here will be of value to you in proportion to the frequency with which you have practically to apply it, and that those diseases which you have thought the least worthy of your interest and attention will be those on the successful treatment of which the comfort of your professional life will depend.

Now, the most frequent, beyond comparison, of all affections, in climates where there is considerable variation of temperature, is what is called *cold*. Scarcely an individual passes the winter without having a cold; many have several colds in the course of the year. The healthiest in other respects may suffer from them, and sometimes those who enjoy a complete immunity from all other disease are particularly prone to them. Generally, the affection is so trivial, of such short duration, and the tendency to recovery so certain, that it is lightly treated or disregarded. It is, however, of such universal occurrence, and occasionally so severe, especially in an epidemic form, that we cannot afford to despise it as a subject of medical study. But I hope I shall be able to show you that neither its frequency nor severity constitutes its only claim on your attention, but that it possesses great intrinsic interest.

Just at this time of the year, fully one-half of the out-patients of this hospital, and a great many in the wards are suffering from colds, and it is this circumstance which has induced me to choose it as the subject of my lecture to-day. You may see in the hospital now, in the course of a week especially in the out-patient room, scores of cases illustrative of the remarks I shall offer you.

What I shall endeavour to show you is this—that the symptoms of catarrh depend on a specific animal poison; that they are attributable either to the material presence of this poison circulating in the blood, or to the irritation which it produces in those organs which are its constituted eliminants. I believe that the arrest of the function of the skin, from exposure to cold,* throws back into the circulation that which ought to have been eliminated as the cutaneous excretion; that this, either by itself, or by ulterior changes which it gives rise to in the blood, induces a condition of toxæmia; that the vicarious emunctory for the correction of this state of blood-poison, by the elimination of the material for whose excretion the skin has been temporarily rendered unequal by cold, is the respiratory mucous membrane; that the principal local symptoms—coryza, tonsillitis, bronchitis—depend upon the vascular changes in this membrane induced by this exceptional excretory function, and possibly by the irritation of the poison materially present thereat; that as long as the blood is thus contaminate the fever symptoms persist, and that its depuration is immediately attended by their abatement.

Now, what warrant does the clinical history of catarrh give for such an interpretation? I think it warrants it in two ways—on *physiological* grounds and on *pathological*, and I will now proceed to show you how.

The physiological argument rests upon the following postulates, which are capable of complete demonstration:—

1. That the vigour of the secreting function and the amount of its results are affected by the quantity of blood supplied to the secreting organ.

2. That cold is an agent that exsanguines organs to which it is applied, and depresses their circulation.

3. That the skin is a great superficial gland, constantly carrying on an active secretion, and peculiarly amenable to the influence of cold.

4. That that which ought to be, and is not eliminated, becomes, by being thrown back upon the circulation, tantamount to something introduced from without, and is a virtual poison.

Grant these postulates, and the theory of catarrh which I have above enunciated follows as an inevitable conclusion.

The pathological argument rests partly on the *clinical history* of catarrh, and partly on *analogical grounds*.

1. The clinical history of catarrh, I think, clearly suggests such a pathology as I have propounded. To take one of its commonest incidents:—A man gets wet feet to-day and shivers; he goes to bed, and to-morrow he wakes with a sore-throat, and can hardly swallow; he knows beforehand that such will be the case, and it is: (in persons liable to quinsy the throat affection is almost always preceded by a recognised exposure to cold, which they fear accordingly). Now, how can these symptoms, the wet feet one day and the sore-throat or chest the next, be connected except by the links which the theory I have suggested supplies—by the suppressed cutaneous action, the consequential blood contamination, its vicarious depuration by certain parts of the respiratory mucous membrane, and the inflammation of these parts from the presence of the morbid material in them. The parts—the feet and throat—are at the opposite ends of the body; they are not physiologically connected, and pathologically only in the way that I have mentioned.

2. The analogical grounds with which pathology furnishes us, for such an interpretation of catarrh as I have suggested to you are—

a. That the symptoms of catarrh are of exactly the same *kind* as those of acknowledged blood-poison diseases.

b. That other diseases show us that where the depressed action of one organ has contaminated the blood, the contaminating material is eliminated by another.

The symptoms of diseases depending on specific blood-poisoning, such as typhus, scarlatina, measles, are of two kinds—*general*, depending on the impression made upon the nervous system by the poison, and *local*, from the irritation, inflammation, or whatever it may be, of the excretory organs, set up by the material presence of the poison· they are attracting to themselves, and draughting away. Now, the symptoms of catarrh are just such. The *general* symptoms—the malaise, the lassitude, the anorexia, the general aching, the enfeebled and quickened circulation, the subsequent reaction, &c., are those of fever. And catarrh *is* a fever. And there is one fever to whose initiatory symptoms the general symptoms of catarrh bear a special and a very close resemblance, and that is *typhus*. And this is a point to which I would direct your particular attention, for it is one to which I have never seen or heard any reference, and one of great practical importance; for the alternative of the two cases is, as far as prognosis goes, so widely divergent,—the one disease a bagatelle, the other full of danger,—and consequently the discredit you would incur with the uninitiated and undiscerning in case of mistake so great, that you cannot have it too clearly impressed on your minds. I know of no two conditions more easily confounded than the early symptoms of fever and severe febrile catarrh; I believe they are sometimes, for a day or two, actually not to be distinguished. Very lately I pronounced a case, in private practice, to be a mere rheum from exposure to cold, which in a few days turned out to be typhus, and several cases I have thought to be incipient fever that have turned out mere catarrh; one such case, and a very striking one, I shall relate to you presently when speaking of another point—the diagnostic value of the *labial herpes*. I do not mean to say that most or a large proportion of cases of catarrh are capable of being confounded with the initiatory symptoms of fever, but that many are, and especially those cases in which the general symptoms are strongly marked, and the local but slightly. Indeed, it is in the general symptoms—that peculiar condition of the nervous and vascular systems—the headache, lassitude, aching, want of appetite, thirst, loaded tongue, pallor, quickened and feeble pulse, drooping eyelids, &c.—that the resemblance to fever exists. But the analogy of the symptoms of catarrh to those of undoubted blood-poison diseases is further borne out by the *local* symptoms, which, as in the case of all specific-poison fevers, are situated in organs possessing an excretory structure and function, and therefore capable of acting as emunctories. The respiratory and faucial mucous membranes are the chief seats of local mischief; their inflammation is accompanied and followed by an increase of their secretion, and a remission of the general symptoms.

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* This explanation applies only to sporadic catarrh; in epidemic catarrh, or influenza, the origin of the humoral disturbance is different.

But you will tell me, there is one link deficient in my chain of analogies that binds catarrh to the fevers depending on specific poisons. "Where," you will ask me, "is the eruption, where is the representative of that cardinal symptom of the poison fevers?" I reply, "In *herpes labialis*." I believe this to be the specific eruption of catarrh. I have never seen a case of it (and I have very carefully looked out for it for several years) which has not been preceded by catarrhal symptoms; I know numbers of people, and I myself am an instance, who never have catarrh without it; I do not say never have coryza or a little cold in the head, but never have regular catarrh, attended with feverish symptoms, without the attack being wound up by the appearance of a crop of herpes labialis. This is generally recognised; the public know it well enough; and the appearance of the eruption is always recognised with the exclamation, "Dear me, what a *cold* you have got!" It is a well known fact that it is very common in pneumonia, but, as far as I have seen, those cases of pneumonia in which it occurs are always of catarrhal origin, inflammation of the parenchyma of the lungs being a not uncommon complication of catarrh,—the most common, in fact, next to that of the faucial and respiratory mucous membranes. I do not mean to say that herpes labialis as certainly accompanies catarrh as the eruption of small-pox and scarlatina do those fevers respectively; many people, doubtless, never have it; but I believe that a great number always do, and that though its absence is not *negatively* conclusive, its presence is *positively*, that its appearance is diagnostic. You all of you know how constantly I am calling your attention to it, and how invariably correct a diagnosis based on it is. I have had several cases lately, of the nature of which I did not feel certain, decided by the eruption of a crop of the characteristic vesicles around the mouth: one of these cases I will relate to you.

On April 19th, 1855, a boy was brought to me amongst the out-patients, hardly able to support himself from extreme debility, pallid, with a glazed feverish eye and drooping lid, a quick but hardly perceptible pulse, dry parched lips, and a loaded tongue, complaining of intense headache, lassitude, pain in his back, and great thirst; he had been suffering in this way for three days. The case had so much the physiognomy of fever, that, thinking it would turn out to be such, I ordered the boy to be admitted. I found out afterwards, that the patient had come to the hospital the day before, and that my colleague, with the same suspicions, had recommended his admission, but the boy had refused to come in. At my recommendation, however, he consented to do so; was put to bed, and was given some saline mixture combined with volatile stimulants. The next morning, happening to be at the hospital early, I went into the ward where my patient was, and on approaching his bed, while yet several yards distant, recognised on the boy's lips and chin the most luxuriant crop of herpes that I had ever seen. I said to myself at once, "That boy is all right: that is a case of catarrh;" and on coming up to his bed and examining him, I found that all his symptoms had vanished. His skin cool; pulse about 75, full and soft; he had perspired profusely, and slept well; his tongue was already cleaning rapidly; his headache had vanished; his expression was cheerful; his thirst had gone; and he expressed a wish to get up. That day he left the hospital.

Only a few days since, a case came under my observation, in which, from the severity of the sore throat, and from a flush about the face, hands, and arms, amounting in the hands and wrists to a rash, suspicion of scarlatina was excited in the mind of the physician who saw the case. The patient, however, who was himself a medical man, and had frequently had such attacks before, said he knew it was only severe catarrh, and that within forty-eight hours the *herpes* would appear on his lips. He was right; within the given time it did appear, and dispelled all doubt as to the nature of the attack.

But I need not multiply examples. You may see cases almost any day in the physicians' out-patient room; and you yourselves, and my colleagues even, have lately furnished examples of this catarrhal herpes, to which I have directed the attention of some of you. You will only have to look out for it to see how very common it is, and how constantly, when it occurs, it is associated with symptoms of cold.

Together with the vesicles upon the lip, there commonly, almost constantly, occurs a little ulcer or two on the tongue, one generally being at the very tip. These ulcers are herpes, only occurring on the mucous membrane instead of the skin. Each of them has been the seat of an herpetic vesicle, and if you catch them early, you may see the little vesicle before it breaks. It seems to be the law of herpes, and one can easily understand it, that whereas when it occurs on the skin it terminates in a sort of clear, honey-like crust (*h. labialis* and *zoster*), when it occurs on mucous membrane it terminates in ulcer (*h. preputialis*), the epithelium is destroyed by the vesicle, a raw surface is left, and the exudation, which on the skin dries and becomes protective, on the mucous membrane is kept moist and removed with the secretion of the part, so that the denuded portion remains open and unprotected. I have often surprised patients who have had catarrh, with herpes on their lip, by telling them that they have an ulcer on the tip of their tongue; they commonly have, but telling them of it without having seen it seems to them like conjuration, and they cannot make it out. I have sometimes seen, in cases of catarrh, the characteristic ulcers on the tongue, with none of the eruption on the lip—the herpes has fallen on the mucous membrane exclusively—but this is not common.

The conclusions that I have come to with regard to this eruption are—

That it is probably always symptomatic of catarrh.

That those persons who ever have it with catarrh always do with every genuine attack.

That some persons never have it; that its presence, therefore, is positively, but its absence not negatively diagnostic.

That its favourite seat is the debatable ground between lip and skin,—the edge of the lip, generally the lower, and near the middle; but that it frequently occurs on the tongue.

That its usual time of appearance is on the fourth day.

That it is always attended with a remission of the general symptoms.

That the exuberance of the crop of vesicles bears no relation to the severity of the attack of catarrh.

Such then, gentlemen, are my views of the pathology of catarrh and my reasons for those views. You know, that in the Lower House of our Legislature a member who would overthrow any measure is required not only to negative that one, but to propose instead of it some substantive measure of his own. So, I would ask any one who rejects my theory of catarrh, to substitute another equally consistent with the facts of the case, and explanatory of the rationale of the phenomena of catarrh in a manner equally simple, intelligible, and satisfactory. I do not see how these facts and phenomena are to be connected, except by the links by which I have endeavoured to unite them. I know I shall be accused by some of riding the "poison" hobby too hard, and of carrying a pleasing theory too far; but a theory can never be carried too far, as long as it is not carried beyond truth; and although the poison theory may sometimes have been overstrained or misapplied, we should never be deterred on that account from enforcing its legitimate application.

Let me now, in conclusion, say a few words to you on the treatment of catarrh.

There are three thoughts which the treatment of catarrh suggests to my mind. One is, that rational treatment is often empirically stumbled upon; another, that a specific for the catarrhal poison is not yet discovered; and a third, that there is nothing new under the sun. The first is suggested by the consideration, that the old and popular treatment of cold is such as the explanation of the pathology of catarrh above enunciated, if correct, would imply. The second by the multiplicity of treatments which have been from time to time recommended; one might almost parody the old proverb and say—*quot medici, tot rationes catarrham medendi;* a multiplicity of remedies always implies to my mind a question of the decided efficacy of any: once upon a time there were twenty remedies for ague; a specific was at length discovered, and now there is but one. The third thought is suggested by the consideration that our most advanced pathology drives us to the same treatment as our great-grandfathers practised. A hot pediluvium, a warm bed, a posset, and a Dover's powder. Such is the treatment we have inherited, and such, in essence and principle, is the treatment of which the foregoing observations will have already suggested to your minds the reasonableness.

(*a.*) We may lay it down as a canon in therapeutics, that, in the absence of a specific, the most rational and radical treatment of any disease depending on the arrest or depression of the function of some organ, consists in the re-establishment of the arrested or depressed function; as, for example, in the treatment of what is called "sluggish liver." (*b.*) We may go further, and say, that where peccant material has accumulated in the body from deficient elimination, one emunctory may be helped, and its embarrassment relieved, by encouraging the action of another; as, for instance, in the relief that is afforded to the kidneys by diaphoretics, in dropsy, after scarlatina, from premature exposure to cold. (*c.*) We may go yet further, and say, that where we have a choice of emunctories, we should always choose that which is the least likely to be injured by the poison in the process of its elimination. (*d.*) We may, lastly, go yet further, and affirm, that the great object to be sought, in the treatment of all poison-diseases, is some channel of out-draught; that contamination implies elimination; that qualitative derangement must be met by qualitative treatment; and that quantitative treatment, such as bloodletting, is not the treatment of the *disease*, for the blood that is left behind is as contaminate and as fruitful of mischief as it was before; that any form of depletion, indeed, is the treatment of *symptoms*, and not of the disease, and can only be admissible as such.

It must be admitted that there are many diseases of undoubted poisonous origin for which, as yet, no channel of elimination has been discovered, and for which, perhaps, none ever may; still the philosophical study of the treatment of such diseases will consist in searching for such a means of cure, and until we have found it our treatment will be merely palliative and expectant—directed to the alleviation of *symptoms* and the meeting of exigencies as they arise, but the essential disease will still be beyond our reach.

Let us now see how these rules apply to the treatment of catarrh. With regard to the first rule, we have twofold evidence that sporadic catarrh depends upon arrested cutaneous action; first, from the circumstances that precede it—the unaired bed, the wet feet, the unchanged shirt; secondly, from the profuse sweating that in all severe cases accompanies recovery. This last implies cause by pointing to spontaneous cure, and suggests at once pathology and treatment. In accordance with the second rule, we might hope, by encouraging the action of the skin, to relieve the other eliminatory surface—the respiratory mucous membrane. The third rule would confirm our choice of the skin as an emunctory, as being the *safest* that could be chosen. All the circumstances of the disease, therefore—its etiology and its clinical history—point to *diaphoresis* as its safest, most efficient, and rational treatment; and it is that upon which I am most disposed to rely.

The efficacy of the treatment of catarrh depends very much upon the earliness with which it is applied. It should be adopted at once—the moment the first rigors and other characteristic symptoms are felt. If this is done, if as soon as the patient feels sure he has a cold coming on, he takes measures to procure a profuse diaphoresis, I believe he may cut the attack short—suppress it altogether. If, however, he waits till the humoral condition is fully established, a mitigation of his symptoms is all that he can obtain. Then comes the question—what is the best diaphoretic? That, I should say, which is the most efficient. Now, what diaphoretics have we at our command? Principally, these: *exercise*, the application of some form of *external warmth*, *diluents*, *opium*, and the well-known lists of medicines known as *diaphoretics*. To take them in their order:—

The efficacy of *exercise*, sufficiently violent to produce profuse perspiration, is well known. "Walking off a cold" is an old remedy. It should, of course, be taken at once, and I think the best way is this: Let the patient drink freely of some warm fluid, put on a great-coat, or some amount of clothing that for the season is excessive; then let him start off and walk smartly, and turn homeward the moment he feels himself perspiring; let him continue the rapidity of his pace quite up to his own door; and let him have a bed to get into the moment he gets home. On this plan I have often seen, and experienced myself, unmistakable symptoms of cold at once put to flight.

External warmth is a very effectual, perhaps the most effectual, treatment of all, if properly applied. The foot-bath, the general warm bath, the hot bed, the removal of the sheets, the double amount of blankets, are all forms of it. But the hot-air bath is, I think, the best of all; indeed, I think it is the most potent sudorific that we possess, and is, besides, easily borne without depression, and manageable and convenient, especially if there is gas in the house. All that is wanted is a spirit- or gas-lamp, and a roomy cloak, fastened close at the neck, of some air-tight material. Some persons always go out to take a hot-air bath, but it is much better to take it at home, and so avoid exposure to cold after it. I have lately heard of a distinguished member of our profession, who always meets the first appearance of a cold by a visit to a hot-air bath, and always, I believe, with success.

Diluents (they should always be hot or warm) are of great value, but I think they should be used only as helps, with other treatment, the efficacy of which they greatly increase. Weak gruel, barley-water, milk-and-water, weak negus, are the best: the two essential points, are, that they should be copious and warm.

Opium is, of all drugs, I think, the best. For cutting short the rigors and relieving the depression of the circulation which ushers in the attack there is nothing like it. I have often tried other means and failed—external warmth, exercise, hot and strong drinks, without getting over the collapsed, shrivelled, shrammed state; but it has at once yielded to opium. But the good of opium does not stop with the mere stimulation, it is an excellent diaphoretic, in some persons a most powerful one, and I believe its chief efficacy in catarrh is due to its sudorific action. To some persons, it is a specific—they feel a cold coming on, they take ten grains of Dover's powder, and the next morning they are sure to be well. But it is a medicine that some persons cannot take, and that in some has effects that very much impair the good it does: in some persons it produces wakefulness and restlessness, in some, severe headache, in some vomiting, in some great depression —the reaction of the stimulation it at first produces.

Lastly, great relief may be obtained by the administration of the ordinary diaphoretics of the stimulant kind, such as ammonia, ether, ammoniacal salts, camphor. (I have seen such good results from camphor as to make me almost think that its effects are specific. I know some patients who always take for a cold, a few drops of spirit of camphor on a piece of sugar every four hours or so, and they profess its effects to be astonishing.) I generally give some such draught as this:—Aromatic spirit of ammonia, twenty-five minims; spirit of chloric ether, ten minims; solution of acetate of ammonia, two drachms; spirit of camphor, five minims: in an ounce and a half of water, every four hours, sometimes with the addition of a little chlorate of potass. Great good often follows such treatment: the rigors cease; or, if the fever is in a later stage, the dry hot skin becomes soft and moist, the pulse comes down, the headache vanishes, and the lumbar pains and aching tenderness of the limbs are mitigated. I do not, however, know that by this treatment I have ever seen a cold cut short; I do not think I have ever seen it given early enough. In hospital patients one has no chance of treating early catarrh; they never come till they have had it some days.

Sometimes, without any appreciable diaphoresis being produced, I have known stimulant treatment stop a cold at once. I have certainly known a good dinner, with plenty of wine, do this.

What I should consider the best treatment, then, if called to treat a cold early, would be, to administer a hot-air bath once, to follow it by plenty of warm diluents, and such a draught as I have mentioned, every four hours, uniting with the first dose a little opium, and I do not think that we can give anything better than Dover's powder. I would just add, that I do think that diuresis is advantageous as an adjuvant, and that in this way the poor are not wrong is ascribing the efficacy they do to nitre.

If, then, any of the foregoing opinions are true, how absurd is that treatment, suggested by a high authority, which would attempt to cure a cold by a total abstinence from all liquids, and by starving out the defluxion by cutting off the supplies. The natural means of out-draught are thus stopped, and the morbid material shut up in the body. Not only is Nature not assisted, but is even debarred from the exercise of her natural *vis medicatrix*.

ON THE CHANGE OF LIFE IN HEALTH AND DISEASE. A PRACTICAL TREATISE ON THE NERVOUS AND OTHER AFFECTIONS INCIDENTAL TO WOMEN AT THE DECLINE OF LIFE.

By Edward John Tilt, M.D.

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DISEASES OF THE GANGLIONIC NERVOUS SYSTEM.*

The present century has witnessed splendid discoveries in the physiology of the cerebro-spinal system, and vast improvements in its pathology; but it will be obvious to all those conversant with medical literature, that little attention has been given to the pathology of the ganglionic nervous system, though, whether it be considered as an offshoot of the cerebro-spinal or as an independent system, its affections deserve attentive consideration. The difficulties of the subject are very great, and cannot be completely removed until the physiology of the ganglionic system has been further investigated by experimental physiologists, and I have merely attempted to prepare their way by collecting all the light I could bring to bear upon the question. The work of which this chapter forms a part is principally constructed with the tabulated estimates of all the morbid symptoms complained of by 500 women, in whom the menstrual function was ceasing or had ceased, and the following Table gives the nature and frequency of diseases of the ganglionic nervous affections at the change of life:—

TABLE XVII.

Liability to Diseases of the Ganglionic Nervous System in 500 Women at the Change of Life.

Epigastric faintness and sinking	220
Epigastric pain or anomalous sensations	49
Fainting or leipothymia	25
Fainting off for the first time in life	3
Prolonged and intense debility	41
Monthly depression of strength	1
Chloro-spanæmia	40
Palpitations	16
Aortic pulsation	2
Hysterical asthma	7
Monthly hysterical asthma	2
	406

Thus 406 women out of 500 suffered more or less from diseases of the ganglionic system. The liability to these affections decreases in advanced life; epigastric pain is then seldom intense, but there frequently remains a liability to fainting, and to the sinking sensations at the pit of the stomach. On the whole, there is a great increase of constitutional stamina until advanced age, when progressive debility and gradual decay occur from the exhaustion of innate power. The ganglionic nervous system, in a pathological point of view, is generally looked upon as a *terra incognita;* and the subject is overlooked or very incompletely considered in systematic works on pathology, and it is scarcely better treated in books on nervous diseases. Thus, notwithstanding Lobstein's classic work, Georget, writing in 1836, affirmed, that nothing is known about the diseases of the solar plexus, or the ganglionic system of nerves; and, in describing gastralgia, he jumbles together the symptoms of pyrosis and dyspepsia with those arising from disease of the epigastric nervous centres. Sir H. Holland says, "that the ganglionic system, and the various nerves of organic life, are still only partially known to us in their proper actions, and yet more obscurely in their intricate connexions with the *nervous powers of animal life;* and if this eminent pathologist is to be believed, "a less definite influence of the system of organic life, as one of the causes of exhaustion," is the only morbid liability of this all-pervading nervous system. It is not surprising, however, that the pathology of the ganglionic system should have been hitherto imperfectly considered, since its physiology is full of desiderata, and even its anatomy is still a subject of endless contention. The experiments lately performed by my friend, Claude Bernard, promise to lead to a more correct pathology of this system; and in some interesting papers on malaria, recently published by Dr. Handfield Jones in the *Association Medical Journal,* he has shown that the experiments alluded to, and repeated by him, establish that the partial paralysis of the ganglionic nerves leads to the congestion or to the inflammation of the tissues within the area of their distribution, and that the partial paralysis of the whole ganglionic system is an important element of fever, whatever type it may assume. Having thus indicated the extent to which the inquiry is susceptible, I now proceed to sketch the *neuralgic* affections of the ganglionic nervous system.

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* As the anatomy of the ganglionic nervous system has lately been the subject of warm discussion, we think it will interest our readers to have their attention directed to the pathology of this nervous system; and we are glad to avail ourselves of the opportunity of forestalling the appearance of a portion of Dr. Tilt's work on the Diseases of Women at the Decline of Life.—Sub-Ed. Lancet.

On taking a comprehensive review of the various stages of the reproductive process in women, I am struck with the frequent prostration of strength being a predominant symptom even when women are in health. At every recurring menstrual period, at the cessation of menstruation, after connexion, parturition, and during lactation, there is felt, more or less, a loss of energy: so it seems as if woman could not pass through any of the stages of that function which serves to communicate life, without the momentary loss of some portion of her own vital energy, reminding one of those animals who die when once they have transmitted life to others.

Et quasi cursores vitæ lampada tradunt.

A glance at the preceding table will show that debility of variable intensity is the constant character of the complaints which I attribute to the diseased action of the ganglionic system. I shall briefly notice, I. Debility; II. Syncope and Leipothymia; devoting more space to, III. Cardialgia, and IV. Chlorosis.

I. *Debility.*—This condition underlies all other ganglionic affections, in the same way as nervous irritability underlies all cerebral diseases. Debility existed in a marked degree in all the cases enumerated above, although it was only markedly intense and prolonged in 41 instances, where it did not seem to depend upon any other cause than the change of life. Sometimes there was an overpowering sense of exhaustion equally pervading the whole system; thus 41 women, of previously active habits, deplored being rendered helpless by intense and long-continued debility. A. M——, a hard-working woman, says, "she hardly knows how to dress herself, and is often obliged to lie down to recover herself." M. W——, a thin, delicate, red-haired woman, aged forty-five, two years ago got her feet wet at a monthly period; the flow stopped; there were great abdominal pains, and a state of intense and long-continued prostration, without any other cause than the change of life. In others, the debility is so rooted in the system that a full meal or stimulants will not dispel it. There is only a difference of degree, none of nature, between this thorough exhaustion of radical strength, and its slight manifestations, so frequent at this period, which seem to originate from the pit of the stomach. This epigastric faintness occurred in 220 out of 500 cases, and is one of the most frequent of the minor torments to which women are subject. Pathologists have noted the severe cases of disease of the ganglionic centre, but they have failed to see the connexion between these and its milder forms, which occur habitually; whereas, between the severest of my 49 severe, and the slightest of my 220 mild cases, I see only a difference of degree, none in the nature of the complaint, which is as variable as the ever-varying shades of the same colour. The symptoms are described as "a sinking and faintness," "faint heats," or "a dull, sickly feeling at the pit of the stomach;" and the sensations are compared to those of "hunger, or to the craving of the dram-drinker after his wonted stimulus." Others feel "as if they could faint," "as if they wanted a support," "as if they had no inside," "as if there was a vacuum." They will not allow the sensation to be called pain, but speak of its being so irritating and irksome that it is worse to bear than pain. They will frequently say that "all the complaint lies in the chest," but they point to the pit of the stomach, and have not a single symptom of chest disease. These sensations may be the harbingers of others that obscure them, such as heats, perspirations, diarrhœa, bloody stools, and globus hystericus. When debility is intense, it passes by a gradual sliding scale into the state called leipothymia by the older writers, and may end in the total extinction of vital power.

II. *Syncope and Leipothymia.*—Fainting is generally considered synonymous with syncope, whereas *syncope* is the failure of the heart's action, *fainting* is the great loss of ganglionic power, determining loss of consciousness; while *faintness* is the temporary depression of ganglionic power, consciousness being unimpaired. It is true that fainting and syncope often coincide, and produce each other; though in some of my severest cases of cardialgia, I have seen fainting occur, consciousness lost, and respiration imperfectly performed, while the heart's action was undisturbed. Dr. Copland has already noticed this fact, and states, that in similar cases, he has even sometimes found the pulse to indicate bleeding. By *fainting*, I understand the "deliquium animi," or the "defectio animi," of Celsus, the leipothymia of Sauvages, whose definition is true to Nature—"Subitanea et brevis virium dejectio, superstite pulsus vigore, et cognoscendi facultate." Syncope is rare at the change of life, whereas a frequent liability to fainting occurred in 25 out of 500 women. M. S——, aged forty-seven, frequently fainted from slight exertion at this epoch, but never swooned before cessation. S. A——, a strong-looking woman, aged forty, six months after cessation, was obliged, for the first time in her life, to give up work, because exertion brought on fainting, and irksome sensations of a load at the pit of the stomach. She has several times fainted off for three quarters of an hour. She is relieved by passing wind, is not dyspeptic, but nervous, and has globus hystericus. M. G—— never fainted in her life until the dodging-time, and then fainting fits occurred two or three times a week for three years. A. L—— frequently fainted before the first and last menstruation, and during each menstrual epoch. C. S—— had repeated fainting fits in the year following cessation. B. de Boismont has noticed fainting at the change of life, but he has not connected the comparatively rare cases of fainting with faintness, and the debility so often complained of; but I consider fainting to be linked, by insensible gradations, to the slightest sensation of epigastric faintness. The preceding considerations may throw light on some cases of sudden death, insufficiently explained by post mortem examinations. Those who have written on ague have noted the paralysing influence of paludal miasma over nervous power. Sir G. Blane relates how the Walcheren patients, when in full convalescence, would unaccountably drop down dead; and in the hospital of San Spirito, at Rome, I have seen a man, recovering from pernicious fever, expire suddenly, without any post-mortem appearances being found to explain the cause of death. Cases of sudden death in puerperal women, already in full convalescence, seem to me to be susceptible of being accounted for by the previous observations. A tall, thin, pale-faced, flaxen-haired inanimate lady was confined, and was doing so well that her accoucheur had ceased his daily visits, when, on sitting up to take her usual food, she fell back, and suddenly expired. Nothing was found to explain this event, but a somewhat flabby state of the walls of the heart.

In advancing age all the ganglionic nervous affections abate, except debility, which goes on gradually increasing until death occurs from the extinction of that amount of power allotted to the ganglionic system. Sometimes, however, death occurs suddenly in the midst of comparative strength, without its being accounted for by the most careful examination of the body, and then I believe it may be caused by some spontaneous shock to the ganglionic centre, similar in effect to a blow to the pit of the stomach; the gastric irritation caused by unmasticated food, possibly had this effect in some cases of syncope senilis, as suggested by Mr. Higginbottom.

III. *Cardialgia.*—The minor forms of this affection are very frequent, and its severest not uncommon; but I intend to illustrate its Protean nature by cases remarkable for their severity or their singularity. Pain at the pit of the stomach was the prominent symptom in the two following cases:—

CASE 32. *Cardialgia caused by the change of life.*—Miss C—— consulted me in 1855. She was forty-eight, tall, stout, with a flushed face, and dark hair. The menstrual flow came regularly from thirteen to forty-seven; but afterwards irregularly, being often a mere show. This patient was never nervous or hysterical; she complains of pain at the pit of the stomach, which first appeared when the menstrual flow became irregular, and says that she is never without uneasy sensations at the epigastric region, which do not generally interfere with the current occupations of the day, though often paroxysms of acute pain occur, especially at night, when they suddenly awaken her from a sound sleep. The pain then experienced is described as a "tearing pain," and after it has lasted from ten to twenty minutes, a ropy mucus comes from the mouth, by expuition, without eructations. When the intensity of the pain has abated, the patient lies prostrate for hours, conscious, but incapable of exertion. Sometimes she faints away, and after a bad attack was forced to keep her bed a day or two. During the last six months, flushes and perspirations have been abundant. On examination, I found no tumour of the stomach. I recommended eight ounces of blood to be taken from the arm, the compound camphor mixture before, and the carbonate of soda after meals; two compound colocynth pills and ten grains of Dover's powder on alternate nights, and a mustard or linseed poultice to be applied to the pit of the stomach every night. After continuing this for a month, the paroxysms came only once a week, instead of almost every night. I then ordered a warm bath to be taken for two hours every other night, just before going to bed; a rotation of belladonna and opium plasters, changing them every week, and a scruple of sulphur once a day. This was persisted in for six weeks, and then left off, because there had been no paroxysms for ten days. When the patient left town, I advised her to continue taking the mixture now and then, as well as the pills and the compound sulphur powder, and to have two or three ounces of blood withdrawn three times at intervals of two, three, and six months. This case seems to me best accounted for by admitting a neuralgic affection of the ganglionic nervous centre, for the stomach was blameless, and performed all its functions healthily, and there was no sign of cerebral disorder, neither did this affection obscure the comprehension of its true nature by awakening other nervous disorders. It caused no hysteria, no pseudo-narcotism, not even headache. This neuralgia of the ganglionic centre was well characterized by the paroxysmal character of the pain, and by the state of exhaustion and faintness it determined.

CASE 33. *Cardialgia at the change of life.*—Eliza P——, aged forty-seven, tall, slender, dark hair, hazel eyes, and a nervous appearance. Menstruation, after three months of pseudo-narcotism, appeared between thirteen and fourteen. Regular from the first; menstrual flow came without pain. She married at sixteen, had seven children, and menstruation ceased, with a terminal flooding, at forty-four, after eighteen months of menstrual irregularities. The previous year she had been troubled with nervous symptoms, followed by copious hæmoptysis, which relieved her. She often suffers much from faintness, flushes, perspiration, and lately, in a slight degree from bleeding piles. She looks exhausted, stupid, bewildered, and says that for the last few weeks her head has been "as heavy as lead," with noises and great giddiness. Every now and then she feels a burning heat run across the chest through the body, and then follow profuse warm perspirations from the chest only. She compares her sensations to those by which the hæmoptysis was preceded.

I first saw her on April 3d, 1850, when I ordered the same treatment as to the former patient, with the exception of six drachms of tincture of henbane to the six-ounce mixture, of which a tablespoonful was to be taken four times a day. I also ordered a large plaster of opium and camphor to be placed over the pit of the stomach and lower part of the chest.

7th.—Much better, but weak; the pains in the chest are removed. A slight vesicular eruption has appeared on the back of the left hand. She fainted twice yesterday, so that I added to the mixture one ounce of nitric ether, and in other respects continued the same treatment.

24th.—She looks quite another person, walks firmly, and only feels the pains and noises in the head at rare intervals. For the last few days the whole skin has been in a state of perspiration.

June 12th.—The patient is very well; the pains in the head have almost entirely left her, and she has grown stouter.

Sept. 8th.—Since I last saw her she has been remarkably free from chest pain and headache. There has been no menstrual flow; but after hearing of the sudden death of a son, she had a severe attack of diarrhœa, and is now very nervous, and can scarcely walk for a numbness in both lower limbs. I repeated the compound camphor mixture, and ordered an opium plaster to be applied to the pit of the stomach. I saw her again two years after; her health was good, but there was no return of the menstrual flow.

In the foregoing remarks, after briefly explaining the opinions entertained with regard to the pathology of the ganglionic nervous system, I have related cases wherein the neuralgia of its central ganglia was characterized by intense pain. In other cases it is not from intense pain that the patient suffers, but from annoying and singular sensations, and as these do not depend upon any organic affections of the heart or the aorta, and coincide with other nervous symptoms of cessation, it seems fair to ascribe them to some morbid condition of the ganglionic nervous centre. The following cases will explain my meaning:—

CASE 34.—*Cardialgia, with anomalous epigastric sensations, caused by the change of life.*—Sarah B——, tall, stout, and healthy looking with broad features, brown hair, and hazel eyes, was forty-seven when she came to the Paddington Dispensary, Sept. 8th, 1849. The menstrual flow first appeared at seventeen, was always regular, accompanied by pseudo-narcotism—a term by which I mean to express the state of drowsiness habitual to women when the reproductive functions are morbidly performed. She married at twenty-five, had two children, and the menstrual flow left suddenly, without known cause, at forty-four. Since then she has been free from lumbo-abdominal pains, but has suffered much from nervous symptoms. There has been no headache, but a heavy, stupid feeling in the head, with drowsiness in the day, after sleeping well at night, and a forgetfulness of familiar things. She has also been nervous, desponding, and low-spirited; often shedding tears, and complaining of strange sensations in the throat. Ever since cessation, she has been distressed by a fluttering at the pit of the stomach, "as if something were perpetually swinging within her." It becomes worse after meals, generally abates when she lies down; is seldom felt when in bed, but begins so soon as she rises. When turning the corner of a street, this sensation makes her feel afraid of losing her centre of gravity, and over-balancing herself; and when she has it in bed, she feels "as if a tub were rolling to and fro within her," and then "the head goes, too," as "if something rose from the pit of the stomach to the head, making it feel giddy and bewildered." Since cessation, she has been troubled by burning flushes, without perspirations; and there is sometimes a good deal of pudendal irritation. If it had been possible to detect organic disease of the heart, aortic pulsation, or some obstinate dyspeptic condition, this singular symptom would have had a material basis; but it would be illogical to deny the patient's statement, because none of these conditions could be detected. She is much annoyed at the sensation, and has consulted many practitioners, some of whom have told her "it was all nonsense."

Sept. 8th.—I ordered the compound camphor mixture before meals, and on going to bed; carbonate of soda after meals; a large opium plaster to the pit of the stomach, and a small teaspoonful of sulphur and magnesia every night.

15th.—She was better. I ordered a saturnine lotion for the pudendal irritation, and ten grains of Dover's powder to be taken every night.

Oct. 6th.—Instead of perspirations, a papular eruption has appeared on the shoulders; she feels rather worse than better, but the same remedies were ordered, with the addition of two compound colocynth pills to be taken occasionally.

20th.—All the cerebral symptoms have vanished; she is much better, and can now bustle about; but as the swinging in the epigastric region still remains, it most likely depends upon some abnormal condition of the ganglionic centre, and not upon cerebral disturbance. The improvement coincided with gentle, well-sustained perspirations. I ordered the mixture and soda as before, but discontinued the sulphur and Dover's powders, prescribing instead, sulphur, two ounces; borax, one ounce; Dover's powder, three scruples, two scruples to be taken in a little milk at night. A blister was ordered to the pit of the stomach.

Nov. 6th.—She looks cool and comfortable, much stronger, and quite like another person. Though less troubled by the swinging sensation, it still exists. The blister did little good, so I ordered a rotation of belladonna and opium plasters, each to be worn a week on the epigastric region, and the mixture and compound sulphur powders to be continued.

23rd.—The patient was discharged cured; she felt no epigastric sensations, and was very comfortable and happy.

The same measures were equally successful in the following similar cases, which also occurred in dispensary practice. If these anomalous symptoms only occurred in those who have plenty of time to watch the coming of each new pain, and to nurse it until it has taken root in the system, I should lay little stress on such cases; but when they occur in the sturdiest of Eve's daughters, hard-working women without imagination, I look upon the symptoms as indicative of local disease, and not of mental delusion. A strong-looking washerwoman, aged forty-seven, mentioned to me that, after the menstrual flow had ceased for six months, she was, for the first time in her life, obliged to give up work, because exertion caused dreadful pain at the pit of the stomach, and fainting fits often prolonged for three quarters of an hour. Because these symptoms cannot be thoroughly explained, are they to be treated as nonsense? Mrs. W—— ceased at fifty-six, and is now fifty-nine. After mental excitement, during the last year, she has been subject to aching pains at the pit of the stomach. She sleeps well until five A.M., and then arise epigastric sensations, as if something were turning in the stomach; this was followed by palpitations. She has no dyspepsia, but feels nervous, frightened, cannot cry, and, like the "Wandering Jew,"—"she must march on." Belladonna plasters entirely removed the epigastric sensation in a month, but she remained still nervous. Many patients, similarly afflicted, complain of the epigastric region being "all of a boil, and that any sudden impression sets the stomach all of a flutter," with great subsequent weakness.

Case 35.—*Cardialgia, with anomalous epigastric symptoms, caused by cessation.*—Sarah J——, an average sized woman, with dark-brown hair, grey eyes, and a semi-chlorotic complexion, came to the Farringdon Dispensary, February 25th, 1853, being then forty-six and unmarried. The menstrual flow appeared at sixteen, and continued regular, without any nervous or other symptoms, except that, for two or three days, it was almost always preceded by the eructation of acid water. Flooding came on seven months ago, without any known cause, and the menstrual flow has since appeared every six or eight weeks, varying in quantity, and being accompanied by abdominal bearing-down pains, by severe and sometimes sick headaches, but she has brought up much less acid water. She has suffered from lowness of spirits, involuntary tears, choking sensations, gasping for breath, and a sensation of fluttering at the pit of the stomach, which she compares to a steam-engine pumping up something from the stomach to the head, inducing headache and giddiness. These sensations do not always exist, appearing when she lies down, so she sleeps propped up in bed. When the attack comes on it seldom lasts more than half an hour, but the night is restless, and the following day she sleeps a good deal in her arm-chair. On careful examination, I could detect no disease of the heart, no aortic pulsation, no signs of gastric disorder, and this patient had no flushes or perspirations. I ordered the compound camphor mixture before, and the carbonate of soda after meals, ten grains of Dover's powder at night, a scruple of the sulphur and borax powder twice a day, a belladonna plaster to the pit of the stomach, and two compound colocynth pills to be taken occasionally. This treatment was continued three months, and completely cured the symptoms. The patient then became regular, and continued so for six months, when the menstrual flow ceased suddenly. She was then much troubled by great debility, headache, giddiness; and for the last year has been subject to flushes and perspirations, but the epigastric annoyance has not returned.

Case 36.—*Cardialgia, with anomalous epigastric sensations, caused by cessation.*—Mrs. S—— consulted me in 1854. A short, stout lady, aged forty-nine, with a florid face, dark hair, eyes with a wild expression about them, and an excitable manner. The menstrual flow appeared at eighteen, and continued regular, though scanty, until she married, at twenty-three. She had hysterical attacks before marriage, and became very nervous after, for she could seldom suckle either of her two children without having laughing or crying fits, and aphonia lasted for months during both pregnancies. Thus she continued until six months since, when the menstrual flow became irregular, very scanty, and was preceded, for a few days, by black motions, containing a small quantity of blood. She was sometimes sick, but only vomited white froth, and complained much of flatulence and a gnawing, burning sensation at the pit of the stomach, which often made her faint away. The wind she described as "inexhaustible," and confirmed her statement by a pretty good specimen. The tongue was not furred, and the digestion good. The spasms, as she calls them, the epigastric pain and flatulence, awake her at night from a sound sleep, and she starts up and screams. I ordered the compound camphor mixture, adding a drachm of chloric ether to each ounce; thirty minims of liquor potassæ in a little barley-water after meals, and oftener, if flatulence were troublesome; four grains of blue-pill, and two of extract of hyoscyamus, with two of extract of gentian, every other night; and the following morning an ounce and a half of decoction of aloes. A mustard poultice to be applied, every other night, to the pit of the stomach, and a warm bath to be taken for an hour at least every other day. At the end of a fortnight there was great improvement in the patient; less nervous excitement, less ganglionic pain, and less flatulence. I then ordered the pills and draught to be taken only once a week; the compound camphor mixture before, and the alkaline drops after, meals; ten grains of Dover's powder every other night, a scruple of the sulphur and borax powder once a day—for the skin had afforded no relief to the circulation, there being neither flushes nor perspirations since the flow had become irregular; the opium and belladonna plasters in rotation to the stomach, a fresh one every week. I also recommended three ounces of blood to be taken from the arm every second month. This treatment had the desired effect, for there had been no relapse when I last heard from the patient, though with such a nervous system a relapse is always to be feared.

Phœbe M——, aged fifty-six, has been unusually weak for the last five years, ever since cessation. She says she is troubled with "inward hysterics," and "faint heats." There is no aortic pulsation to be detected, but the least thing brings on a violent abdominal beating, and causes her to pass two or three liquid stools, blood from the bowels or from piles. At times she loses her sight, and cannot sleep. Flushes are generally preceded by heat, pain, or faintness, at the epigastric region, and the sensations have been described by patients as "a ball of fire," or "gnawing, tearing pain," relieved by pressure, and prompting the sufferer to turn on her stomach to press the painful region. Whoever has seen patients suffering from lead colic will recognise in these symptoms those of that affection.

The following case is that of a lady who wrote to consult me from Wales, at the suggestion of Dr. Roeser, physician to Otho, King of Greece:

CASE 37.—*Cardialgia with long-continued intense debility.*—A widow lady, aged fifty-four, was regular until forty-one, when the menstrual flow ceased suddenly from being frightened at a revolutionary tumult at Athens. She then became frequently subject to headache and bilious vomiting, which abated on her return to England, in 1853. In 1855, the habit of vomiting completely ceased, but was soon succeeded by other sufferings. After the subsidence of headache, there is a peculiar faintness at the pit of the stomach, which she cannot describe, but which so exhausts her strength that she is confined for days to her bed. An intelligent practitioner called the complaint "a nervous affection of the diaphragm," and aperients, tonics, and stimulants, with blisters to the pit of the stomach, were tried ineffectually. Sedatives, given as in the previous cases, relieved this patient, notwithstanding ever-recurring domestic annoyances.

In the following cases the difficulty of breathing from a reflex spasmodic contraction of the diaphragm and intercostal muscles was a predominant symptom. The first is that of a lady, sent to me by a Northampton practitioner.

CASE 38.—Miss O——, tall, stout, of a sanguine temperament, was fifty-seven years of age. The menstrual flow came on at thirteen, and was regular until fifty, when it ceased gradually. Until then she never had any serious illness, and no marked hysterical symptoms, though she was always very excitable. Just before cessation she had the shingles, and soon after erysipelas; but with the exception of flushes and gentle perspirations she remained well for two years. Five years ago Miss O—— came to see the Great Exhibition, and, without known cause, was, for the first time, seized with the nervous affection for which she consulted me. Without being sick, she goes through the pantomime of sickness; she gasps for breath, but retains consciousness, and does not suffer from positive pain, but from the anguish of not being able to breathe. The attack lasts from three to ten minutes, and is often preceded for several days by a spasmodic affection of the jaws, "as if she could not put the teeth in the right place." A neuralgic flash of pain across the forehead, and heavy sweats, are its immediate precursors, and it leaves her in such a state of exhaustion, that she has often kept her bed for several days. These attacks used to occur at short intervals, but lately there has been a longer period between them. Worry brought one on a month ago. She has no epigastric pain during the attack, or at any other time. For the last three years there has been a red sediment in the urine, and an unusually frequent desire of passing it. She has no leucorrhœa, but for two years she has been frequently troubled by great irritation of the labia. Hard lumps are said to arise, and, after remaining a few days, to disappear, without suppurating, but sometimes end by a pimple, and lately she has suffered from piles. Miss O—— is evidently very nervous, and although grown stouter, her energy has not increased, for she talks of the great fatigue it would be for her to take a bath. As Miss O——'s attacks were becoming less and less frequent, no active treatment was required. I recommended the compound camphor mixture to be taken, off and on, for several months; twenty drops of liquor potassæ in a little water, after meals, and the sulphur and borax at night. Warm baths were also suggested, particularly when there was pudendal irritation, and after a time I advised her taking the syrup of citrate of quinine and iron. This patient enjoyed such excellent health until cessation, that I am disposed to attribute all the subsequent illness, the nervous attacks, the erysipelas, and the pudendal irritation, to the organic changes set on foot by the turn of life. I refer the symptoms to a neuralgic affection of the ganglionic centre, although it was not at the seat of pain, as in the next case, which Dr. Marrotte published in the *Gazette des Hôpitaux*, 1854, under the title of

CASE 39.—*Spasme simultané de la glotte et du diaphragme.*—A woman, aged forty-four, entered the hospital of "la Pitié." The menstrual flow came at seventeen, with disturbance of health, and at twenty-three she had frequent menstrual irregularities, became nervous, had agonizing sensations at the epigastrium, with globus hystericus and a spasmodic contraction of the diaphragm, continuing so long that her friends feared asphyxia. In these attacks, which occurred about three or four times a week, she heard what was said, but could not speak. Cessation took place at forty-two, and the nervousness has increased, for she laughs and cries at the least thing. The day the patient entered the hospital, the house-surgeon saw her in one of these attacks. Pain at the pit of the stomach, and a sensation of stricture at the basis of the chest were first felt, then respiration was suspended, after which followed great efforts to inspire and expire, both being separated by variable intervals, and accompanied by laryngeal whistling. The noise was strongest during inspiration, which was attended by exaggerated dilatation of the chest, and great efforts to swallow an imaginary bolus. Several of these attacks occurred, lasting from half a minute to three minutes, and were followed by pain at the pit of the stomach, by fainting and exhaustion. The attacks seemed to abate by pressing the pneumogastric nerves at the inferior edge of the thyroid cartilage.

Voisin also relates, that a case of hysterical hemiplegia was sometimes attended by instinctive and prodigious efforts to breathe, with emission of a singular noise from the glottis. Dr. Marrotte considered his case analogous to the laryngismus stridulus of children; but when the subject was discussed at the Société de Chirurgie de Paris, Dr. Beau judiciously observed, that there was no analogy between the two affections. At p. 64 of my work on "Diseases of Women," I have given the case of a lady, aged thirty-three, whom I have frequently seen similarly attacked; there was no laryngeal spasm, but absence of all respiratory movements for five or six minutes, as she lay immoveable, and with open mouth. The gradual solution of the spasmodic contraction of the diaphragm could be measured by the increased length of respiration, a full respiration bringing back consciousness. Sir B. Brodie mentions the case of a young lady, in whom the slightest pressure on the epigastric region would bring on paroxysms of suffocation from spasmodic contraction of the walls of the chest, and these cases are what the older authors called hysterical asthma. In a diminished degree, the symptoms frequently attend an ordinary hysterical attack, though they may occur intensely to women suffering little from the ordinary forms of hysteria, and who present no signs of emphysema, or of heart or lung disease. In my six other cases of cardialgic asthma at the change of life, the symptoms were less marked than in that of Miss O——; but those described by Dr. Marrotte were reputed not uncommon by Dr. Beau, who mentions having seen a woman, suddenly taken with suffocation, die in two minutes, without any discoverable cause. M. Bacchias, in his thesis, has given several similar cases.

Having described the minor as well as the most severe forms of cardialgia—having adduced examples of it, where the prominent symptom was pain or sensations almost baffling description, and complicated by various reflex neuralgia, it is well to inquire the opinions of pathologists, who have described the severe forms of the disease of the ganglionic centre under the names of Cardialgia, Gastrodynia, Leipothymia, Gastralgia, Hyperæsthesia of the solar plexus, Hyperæsthesia of the Cœliac Plexus, Hysterical Asthma, Sinking Dyspepsia, Neurosis of the Vagus, and some of my cases have been called by other practitioners a nervous affection of the diaphragm. Women frequently complain of chest pains, or of spasms, inward spasms, or inward hysterics. Hippocrates has noticed agonizing epigastric pain, accompanied by the impossibility of breathing, as having occurred at puberty. F. Hoffman, in describing cardialgia, insists on the intense pain at the pit of the stomach, the sense of anxiety, the difficulty of breathing, and the prostration of strength, but thinks, with Barras, that the stomach alone is affected. Some of Schmidtman's cases of this disease are similar to mine, like that of a girl of sixteen, who, for several months before menstruation, suffered severely, at the pit of the stomach, for a few days every month. Barras has adopted the term gastralgia, for the ganglionic phenomena occurring at lactation, chlorosis, or pregnancy; and remarked that his patients refer the sensation of weakness and annihilation which overpower them to the epigastric region. Jolly and Georget also use this term, and note its frequency in women during the reproductive period of life, or whenever the system is strongly reacted on by the reproductive apparatus. Louyer Villermay gives cases in which hysteria is accompanied by attacks of intense epigastric pain, exhaustion, syncope, or suffocation. Dr. Addison has not exaggerated the frequency of cardialgia in those suffering from uterine affections; and Hufeland and Chambon state that, at the change of life, women are subject to suffocative and epigastric spasms. Dusourd, remarking on the same phenomena, correctly says, "they simulate asthma," and adds, that, "the affections and sensations at the pit of the stomach at the change of life baffle description."

A valuable contribution to neural pathology has recently been made by Dr. Shearman, who has evidently been forcibly struck by cases similar to the preceding. Bearing in mind the fact, already well established by Romberg, that neuralgia of the vagus nerve is indicated by patients becoming ravenous, who could previously take only the smallest quantity of food; and coupling this with Bernard's discovery, that irritation of the origin of the vagus caused sugar to form in the liver, which was removed by the kidneys, and appeared in the urine, Dr. Shearman "concluded that the disease was one of the vagus nerve in some parts of its tract, either centric, peripheral, or intermediate; of irritation in its early stages, and of palsy succeeding to that irritation." He designated it *sinking dyspepsia*, and treated it as he would the neurosis of any other centripetal nerve. If I be not deceived, Dr. Shearman has exaggerated the frequency of neurosis of the vagus, describing as such those cardialgic affections which are more or less complicated by reflex neuralgia of the vagus nerve. The vagus is a bridge by which the central portions of the two nervous symptoms are placed in communication. Uniting both nervous systems it resembles both, but principally the sympathetic, by its organization and the modes of its distribution. It is not a well isolated nerve, for it often anastomoses with the sympathetic, and helps to form the cœliac ganglion, by nerves which are both numerous and voluminous. Thus anatomically united, I believe the affections of the vagus and the epigastric ganglia generally coincide.

Such is the language of previous authors and the views of fellow-practitioners with regard to the disease under consideration; I shall, in a concluding paper, briefly describe the neuralgia of the central ganglia and plexus, using the old term, cardialgia, because it is generally understood to mean epigastric pain with sensations of debility.

DISEASES OF THE GANGLIONIC NERVOUS SYSTEM.

(Continued.)

After explaining the views entertained by pathologists respecting the physiology and pathology of the ganglionic nervous system, I have attempted to prove that, while some ganglionic affections seem to be all-pervading, like chlorosis, leipothymia, or intense debility, others admit of being localized. As the brain is often affected without much disordered action of the cerebro-spinal nerves, so the central epigastric ganglia may be principally affected, as in the cases recorded in the last paper. Cardialgia is characterized by sensations of faintness, referred to the epigastrium, by decided pain, or by anomalous sensations at the same spot, and I shall conclude with some comments on the causes, symptoms, and treatment of this singular disease.

Causes of Cardialgia.—Brachet (Essay on the Sympathetic System) found that the solar plexus and semilunar ganglion of a calf might be repeatedly pricked with a scalpel, without the animal giving any sign of pain, though if he waited until the ganglion appeared inflamed and then pricked it, the animal was evidently hurt. He then pricked and pinched the various spinal nerves leading to the semilunar ganglion and solar plexus, and the animal gave signs of pain; but when he had cut through several of these nervous filaments, and irritated the portions no longer in communication with the ganglia, no distressing symptoms were exhibited. In an experiment, similarly conducted on another calf, Brachet waited until inflammation had developed pain in the semilunar ganglion, when he cut through all the nervous filaments leading to the ganglion, and it could then be pricked without the animal evincing any signs of suffering; he then concluded that, in their healthy condition, the semilunar ganglion and plexus gave no cerebral sensation, and that in an inflamed state they are the seat of pain, only on account of the spinal nerves which go to the ganglion, and transmit its morbid sensations to the brain. Thus it seems that the ganglionic nerves transmit their morbid impressions to their ganglia, and it is in these ganglia that the spinal serves come and fetch morbid sensations, and transmit the knowledge of them to the brain, so that the mind becomes conscious of an order of sensations, of which, under ordinary circumstances, it is not destined to take cognizance. Valentin and Dr. Handfield Jones seem to have arrived at similar conclusions, which are as applicable to neuralgic as to inflammatory pain. A blow at the pit of the stomach does not kill by inflammation, but by a neuralgic shock, so suddenly intense, that the laws of pugilism forbid "to hit under the belt." The blow may, however, be so graduated as to determine corresponding shades of neuralgia and of leipothymia, while anomalous epigastric symptoms are produced by indigestion in nightmare, and by mesmeric manipulations. The agonies of vomiting are partly due to the more or less intense concussions of the epigastric ganglia, which explains the intense debility it causes, and the not unfrequent deaths that occur when—as on board ship—it cannot be checked. Besides the capability of being stunned by a blow externally applied, the great ganglia are susceptible of receiving shocks from centric causes spontaneously evolved in the system. "Miseros vidi ægrotos," says Lobstein, "qui vix somno dediti, subitò fuerunt expergefacti atque valido et quasi electrico ictu territi, ab epigastrio proficiscente; crudele phenomenon, quod per plurimum mensium spatium duraverat." Other authors have noticed the same strange sensations; but independently of these rare occurrences, it will be obvious to the pathologist that the ganglionic centre is constantly receiving, from causes spontaneously arising in the frame, milder shocks, which determine the varied forms and degrees of cardialgia. This occurs to both sexes during convalescence, in consequence of the undue strain put on the ganglionic system for the increased impulse required by nutrition; in hel minthiasis, when the expansions of ganglionic nerves are peculiarly susceptible of being irritated by worms; in agues, of which the ganglionic system is the prime motor; in hæmorrhoidal and other flows, when indiscreetly stopped by cold water; in chlorosis, hypochondriasis, and in the earliest stages of insanity, before the ganglionic are cast into shade by the magnitude of the cerebral symptoms. But the greatest and most frequent cause of disturbance of the ganglionic centres, is the strong reaction of the reproductive organs: puberty, menstruation, pregnancy, lactation, and cessation, almost always cause slight forms of cardialgia, and sometimes the severest, leading to suicide and to the varied forms of insanity. Woman suffers more than man, for her ganglionic nervous system is doubly taxed for self-nutrition and that of the race; and if she be susceptible of so often "tumbling to pieces," and of being again knitted firmly together, it is because her ganglionic nervous system has been endowed with extraordinary powers for good or for evil; but man does not escape. Schmidtman, who paid so much attention to nervous affections, says, and I confirm the correctness of the remark, "whenever a young man consults me for cardialgia, I suspect onanism." Cardialgia, under varied forms, is frequently observed in spermatorrhœa, and explains why some commit suicide and many become hypochondriacs. The *debauché* and the *roué* are frequently at a loss for terms to express the annoyance of their sufferings at the pit of their stomach.

Symptoms and diagnosis.—At puberty, during irregularly-performed menstruation, pregnancy, lactation, or the change of life, the pains at the pit of the stomach may be said to depend on hyperæsthesia of the solar ganglia and cœliac plexus, particularly if the patient has been subjected to causes likely to produce nervous affections, if cerebro-spinal neuralgia co-exist and has been intermittent, and if nervous symptoms be unexplained by organic lesions of the stomach. There may be oppression and faintness with or without violent pain at the pit of the stomach; sensations like "the fluttering of a bird," "the throbbing of an animal," or those "of internal rawness," "of gnawing and of tearing;" but these feelings do not depend on gastric inflammation, since the stomach, even in some of the most distressing cases, can digest anything. I, therefore, adopt Lobstein's opinion, that they indicate a state of suffering of the ganglionic nervous centre—"Hodie certissime evictum est, quod tot numerosæ sensationes, quæ in epigastrio percipiuntur, neque ad musculos, neque ad vasa, neque ad organa gastrica sint referenda, sed unice ad plexum nervorum gangliosum, trunco cœliaco insidentem, atque a Wrisbergio summo cum jure *cerebrum abdominale* vocatum." Romberg is "inclined to think that the peculiar sense of fainting and annihilation accompanying the pain, is pathognomonic of cœliac neuralgia, and distinguishes it from neuralgia of the vagus." A sensation of stoppage in the œsophagus, of choking or of scalding, rising from the stomach to the throat, with the regurgitation of ropy mucus or vomiting; copious perspirations or a greater flow of urine will occur when the pneumogastric is affected with neurosis. Pressure often relieves, though a slight touch may sometimes increase, the pain. Women instinctively unfasten their clothes, and some of my patients have left off stays on account of their liability to cardialgia. The debility entailed by a severe attack of cardialgia is beyond the conception of those who have not witnessed it. A good night's rest does not restore the usual strength, which seems drained from its fountain-head, and does not return without several days and nights of real repose. The intermittent character of the pain has been well indicated by Schmidtman, *Per intervalla vexat cardialgia et remittet intermittetque.* I have seen the worst paroxysms of cardialgia come on in the midst of perfect health, and without any apparent cause; but I have seldom seen them assume the tertian type, said by Dr. Sherman to be of frequent occurrence. Whether the presence of sugar in the urine is a pathognomonic sign of neurosis of the vagus, as stated by Dr. Sherman, is to me very doubtful, for, having shown how intimately the vagus and the cœliac ganglia are united, I question whether the solution of a nutrition problem, like that of the formation of sugar in the blood, is not rather to be sought in that nervous system which is chiefly connected with nutrition; but this is a fit subject for future researches. Admitting, with Romberg, that the sense of repletion after taking a small amount of food, and the absence of satiety after taking a large quantity, indicates hyperæsthesia of the gastric branches of the vagus, and that the accompanying sensations of burning or gnawing at the pit of the stomach, with overpowering debility, indicate cœliac neuralgia, the distinction has no practical bearings, as Romberg himself admits. Cardialgia with all its singularities has been rapidly described; but in the previous chapters much will be found relating to the same subject, and in a subsequent chapter on cerebral pathology, I have shown the influence of cardialgia in the production of many affections of the brain.

Treatment of cardialgia.—The volume of the brain, its complicated and regular structure, show it to be contrived for important ends, and although the relation existing between the intellectual faculties and the structure of the brain cannot be comprehended, it must be admitted. It is perfectly incomprehensible that so much vital force for good or for evil should be centralized in little irregular lumps of nervous matter, and in sundry tangled skeins of nerves, the geography of which, like that of the polar regions, is differently mapped out by successive observers; but, though incomprehensible, it is no less certain that these knots of nervous matter, and these tangled skeins of nerves, are indissolubly connected with the supreme power which guides the processes of healthy or diseased nutrition. This is proved by the writings of Winslow, Bichât, Reil, Wilson, Brachet, Philip, Broussais, Lobstein,

&c.; and I refer the reader to the works of these authors, and to the late experiments of Claude Bernard, and Dr. Axmann, as well as to my work on "Diseases of Women," in which I have condensed what is known about the physiology and pathology of the ganglionic nervous system. Whether, with Bichât, anatomists look upon the ganglionic nervous system as independent, or, with Haller, as an offshoot of the cerebro-spinal system, I, as a physiologist, follow Müller, who considers the ganglia the source of the energies of the sympathetic nerves, and the fountains from which the ganglionic draw the constant, gradual, galvanoid action which is kept up in the capillaries throughout the frame. It, moreover, appears that each separate ganglion sends its contingent of nervous influence to the central ganglia, which re-acts on the brain, and that the force with which the ganglionic nervous system is endowed is as much centralized in the epigastric region as the intellectual faculties are in the brain. Discordant as medical theories generally are, it is singular how often the importance of considering vital force as centralized in this epigastric centre has been prominently asserted. Galen and Fernellius called it the principal lever of the human forces; Van Helmont there placed his *Archéus*, or principal ruling power; Wrisberg and Lobstein treated of it as the *cerebrum abdominale;* Hunter called it the sensitive centre, and the centre of sympathies; and Bichât, Broussais, &c., considered it the prime conductor of nervous influence. The importance of this region as a centre of power is even shown by the erroneous theories which made some, with Buffon, place the seat of the soul in the diaphragm, and by the popular belief that the human passions are centred in the præcordia, whereas they merely react upon it as stimulants when the passions are of an exhilarating nature, or as depressants when they are of a contrary nature. The common consent of mankind, the convictions of many illustrious men, and my own experience, fully persuade me that the epigastric region is a real centre of nervous power, and I therefore seek to act upon it by such remedies as seem likely to enable one to increase or diminish its power, or to regulate its disordered action. This should be done, if only to relieve the painful, distressing, and the unaccountable sensations experienced by patients in this region; but being firmly convinced that this ganglionic nervous centre is in constant action and reaction on the brain, and having seen it so often derange the mental faculties at puberty, during pregnancy, puerperality, lactation, and cessation, I deem it imperatively urgent to apply remedies to this centre. Another important reason for seeking in every way to relieve epigastric pain and anomalous sensations at the change of life, is, that women will not endure these sufferings without seeking relief. If the faculty do not relieve them, they will instinctively fly to stimulants—the poor to porter and gin, the rich to wine and brandy. Is it not, then, better to try to alleviate these distressing symptoms by medicine, than to run the risk of women becoming gradually addicted to the most deplorable habits?

The chapter on the general treatment of diseases at the change of life must be borne in mind, inasmuch as local applications can be of little utility without constitutional treatment. When the mild forms of cardialgia are presented, the epigastric uneasiness, the sinking and faintness, I first ascertain whether these sensations depend upon foul secretions requiring purgatives, before ordering my sedative mixture before meals; the alkali after meals; three grains of blue-pill and two of extract of hyoscyamus, every, or every other night; a mustard, or a hot linseed-meal poultice, sprinkled with coarsely powdered camphor every other night; dry cupping, as recommended by Galen, and oil-silk over a cotton-wool poultice, or a camphor sachet, to be worn during the day on the pit of the stomach. If the pains continue, I prescribe a pitch, a belladonna, or an opium plaster, made soft, so as to embody from five to ten grains of opium to the square inch. The plaster should be left on, and should it fail to relieve, I repeat it every four or five days, or I apply two; one to the pit of the stomach, and the other to the sensitive region of the spinal column; or I order alternately an opium or a belladonna plaster every fourth day. If there be sleeplessness and nervous irritability, I give from five to ten grains of Dover's powder every, or every other night; and, with the intention of acting on the seat of the disease, I have given the twelfth of a grain of acetate of morphine every one or two hours, until the induction of drowsiness. If, besides the sensation of prostration, there be downright pain, resisting the local means previously detailed, I sometimes have, with benefit, applied a piece of lint steeped in chloroform, and covered with oil-silk, to the pit of the stomach, retaining it in its place by a bandage. Dr. Ameuille has, I find, thus used chloroform for similar affections. A blister, though often ineffectual, has sometimes relieved the pain; and this reminds me that Comparetti and Barras derived no utility from blisters in the gastralgic affections they attended at Venice and at Paris. Lorry also thought them of little use. In the worst cases of cardialgia, where there were fits of agonizing epigastric pain, its intensity was often abated by from thirty to sixty drops of aromatic spirits of ammonia in the smallest possible quantity of water; or by the same quantity of chloroform on a lump of white sugar, and melted in a little water; or by chloric ether, which was less disagreeable to take; or by twenty drops of sulphuric ether, in one ounce of which a drachm of camphor had been dissolved; or by a drop of essential oil of peppermint, on a lump of sugar, and dissolved in water. In some cases the paroxysm would take its course, and abate according to some law of its own; in others, all milder remedies failing, I have denuded the skin of the epigastric region to the extent of a crown piece, by strong blistering tincture, or placed on its surface a piece of linen wetted with strong spirits of ammonia, applying afterwards from three to six grains of acetate of morphine. This plan of treatment has been praised by Barras. Veratria and aconitine are also invaluable agents in difficult cases. I have employed them externally, as Turnbull has done in other affections, incorporating the active agent with lard, one scruple of veratria, or one grain of aconitine to one ounce of lard, directing a piece the size of a filbert to be rubbed on the epigastric region for a quarter of an hour, until warm and pricking sensations were excited. This application may be repeated every second or third day. Trousseau and Mathieu speak highly of this method of applying veratria; and the following liniment, recommended by Dr. Oldham for the neuralgic affections of women, may be tried with advantage:—Extract of belladonna, half a drachm; tincture of aconite (Fleming's), four drachms; for an ounce and a half of soap liniment. Such are the plans of treatment I habitually adopt; I shall now briefly notice some medicines, praised by good authorities, but of which I have only made an occasional use.

Dehaen, Barras, and many who have paid attention to the obscure affections under consideration, praise, equally with myself, the internal and external exhibition of opium, hyoscyamus, camphor, and cherry-laurel water. Dumas, of Montpellier, frequently prescribed for nervous affections of the abdominal organs—castor, thirty grains; camphor, fifteen grains; opium, eight grains; conserve of roses, a sufficient quantity: to be divided into fifteen doses, one to be taken every day. Dr. Shearman gives half a grain of nitrate of silver, with the same quantity of opium, and five grains of extract of camomile, three times a day; sulphate of quinine, diluted in an acid mixture; and one-drachm doses of potash water, to prevent the formation of sugar in the urine. J. Frank considers that the principal remedy for neuralgia of the cœliac plexus is oxide of bismuth, the third of a grain given two or three times a day, but not continued too long, for fear of completely deadening the sensibility of the nerves. He says that "oxide of bismuth has a decided influence on the nerves of the stomach, and that oxide of zinc is endowed with a similar power of appeasing the nervous affections of the cœliac, and of the abdominal ganglionic plexus,"—assertions evidently bearing the stamp of exaggeration. Hufeland writes favourably of hydrocyanate of zinc, one to four grains given two or three times a day. Nitrate of bismuth is frequently given in ten to twenty-grain doses, suspended in a little mucilage, and may be repeatedly taken on an empty stomach. Acetate of lead, in one-sixth-of-a-grain doses, has been frequently given with success, by J. Frank, in cases of cardialgia caused by onanism, and accompanied by spermatorrhœa; but this I have never tried, nor the powder of nux vomica in two-grain doses, nor its extract in a one-grain dose, strongly recommended by Schmidtman. Comparetti and Barras speak highly of ice to calm pain in spasmodic affections of the stomach, to increase the sensation of strength, and the peristaltic movement of the intestines. This reminds me that, in some severe cases, when the patient could not swallow cold water, or anything warm, there was a strong inclination for ices; which, as well as Nesselrode pudding, could be easily swallowed, and the pain was for a time relieved. Intense heat is as serviceable in this as in other neuralgic affections. The actual cautery and moxas to the pit of the stomach have been used in olden times, so transcurrent cauterization might now be useful. The Chinese relieve cardialgia by plunging acupunctive needles into the epigastric region; and Dr. Despine speaks favourably of the hot springs of Aix en Savoie, taken internally, and given in baths and shower-baths to the abdominal region.

IV. *Chlorosis.*—Dr. Merei affirms that chlorosis is one of the most extensively diffused pathological conditions of the present age. It is, doubtless, often met with in the years which follow puberty, but all must recognise its frequency at the marked periods of woman's reproductive life. Caseaux has pointed it out during pregnancy; Blaud, of Beaucaire, who has carefully studied the action of ferruginous preparations, admits it to be more common than is generally believed amongst adults; and Dusourd has recognised it at the change of life. Indeed, every-one must have noticed the altered appearance of some near relative at that period, the change of skin from a healthy hue to the waxy, sallow tint, the bloodless lip, the pale white of the eye, with headache, pseudo-narcotism, general debility, reluctance for exercise and for food. Leaving out of the question all cases in which anæmia was caused by flooding, it is well proved that puberty, pregnancy, lactation, and cessation may cause the relative proportions of the blood globules to fall low enough to produce chlorosis. This is doubtless a blood disease, but it originates in some peculiar loss of power of the ganglionic nervous system which actuates the bloodvessels and gives vitality to the blood. I have long believed, with Dr. Jolly of Paris. that chlorosis is a neuralgic affection of the ganglionic nervous system; and with Dr. H. Jones, that in many cases, occurring amongst the poorer classes in London, the action of malarious influences upon the ganglionic system is the first link in the chain of causation; but such cases must not be severed from those equally frequent, wherein chlorosis arises under the healthiest circumstances and in the wealthiest families, showing that the sympathetic may find within the female economy another cause of chlorosis. At the change of life, as at puberty, the nervous energy of the ovaria is below par, and the epigastric centre, not being sufficiently stimulated, is unable to promote the healthy performance of nutrition, the blood is impoverished, the whole system suffers from a neuralgic affection of the ganglionic nervous system, and chlorosis follows. The treatment of chlorosis is well known. Chalybeates are as useful as at puberty, but smaller doses are required. I generally give from fifteen to twenty drops of Bullock's syrup of citrate of iron, or citrate of iron in effervescing draughts, adding ether or tincture of ambergris to my sedative mixture. Chlorosis is likewise shown to be a neuralgic affection of the ganglionic system, because at all periods of life it is generally accompanied by some form of cardialgia, which renders epigastric applications necessary for its cure; and if it so often relapses, it is partly because no epigastric medication has been made.

York-street, Portman-square, 1857.

THE EXCITO-SECRETORY SUB-SYSTEM OF NERVES: OBSERVATIONS AND SUGGESTIONS.

No. II.

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In a memoir read at the Royal Society in February, 1837, I announced the existence of an *Excito-motory System of Nerves*.

I believe I may now announce a system or sub-system of *Excito-secretory Nerves*, not less extensive.

As in the former case the pneumogastric was shown to be the principal, though not the only, internal *Excito-motor* nerve,[*] so in the present instance that nerve will be shown to be the principal, though by no means the only, internal *excito-secretory* nerve.

The external excitor nerves, in both cases, are the trifacial and the cutaneous spinal.

All of these nerves are chiefly centripetal in their course and action; all act *diastaltically* through the *spinal marrow* (the medulla oblongata and the medulla spinalis inclusive), as the centre or key-stone of all the cycloidal nervous *arcs* of the system; and all act through the *ganglionic* system as presenting the *centrifugal* nerves or portions of those arcs, the immediate secretory nerve, but excited into action by a remoter, *centripetal* nerve.

Henceforth the Diastaltic Nervous System must be divided into TWO sub-systems:

I. *The Excito-motory;*
II. *The Excito-secretory.*

The former is extended to the entire muscular system; the latter is diffused over the general system as the blood is diffused over the system. Every capillary, or methæmatous, or blood-changing, vessel has its element of the excito-secretory system, the nervous methæmatous agent in every such change. The blood moves in *circles;* the excito-secretory sub-system acts in *cycloidal arcs.*

I proceed to give examples:

"Every one," says M. Brown-Séquard,[†] "knows the singular alterations which take place in the *eye* after a contusion of the *frontal* nerve, or a section of the *trigeminal* or of the *cervical ganglionic* nerves." "I have found," adds this eminent physiologist, "that after the section of a lateral half of the spinal cord, it sometimes happens that the *eye* on the same side will present strange and various changes. The part of the cord having this influence on the eye lies between the *ninth* and the *twelfth* costal vertebræ."

But *why* this same or similar effect from such various sources, no conjecture has hitherto been given. Yet, I think, every reader will at once perceive, when the fact is pointed out, that the trifacial nerve, the costal spinal marrow, and the ganglionic nerve, are but the centripetal, the central, the centrifugal, portions of *one* continuous cycloidal methæmatous arc, and that it is to a certain degree immaterial in *what point* of this arc the section is made!

The pneumogastric nerve has been the enigma of experimental physiologists. It would be too long for me, on the present occasion, even to enumerate their varied and contradictory conclusions. I shall therefore only briefly state certain ultimate facts which have resulted from these multifarious investigations:—

First, then, according to Dr. J. Reid, no effect on the lung is "necessarily or even generally" produced by the division of ONE pneumogastric nerve, and the animal survives the operation.

Secondly, Dr. J. Reid observes: "Section of the pneumogastrics" (that is, of *both* pneumogastrics) "invariably proves fatal, if the cut ends of the nerves are kept apart." And, "The section of these nerves proves fatal by its effects upon the lungs."

But why does section of *one* of these nerves produce *no* effect on the lungs and on life, and the division of *both* so affect the lungs as invariably to prove fatal? I venture to reply,—Because the pneumogastric is a *centripetal* nerve in this case, and that, when *only one* is divided, its loss is compensated for by the influence of the one remaining; but that, when *both* are divided, *all excitation* essential to the action of the centre and centripetal portions of the arc, is excluded, and all methæmatous action prevented.

But Dr. J. Reid has observed, that "changes in the lungs do not necessarily follow the division of *both vagi* and recurrents" ("Researches," p. 216). And Arnemann states that he has known dogs to survive that operation. In one of Dr. J. Reid's experiments the dog survived twelve days, and was then killed.

Admitting these facts, how may they be explained? May not the trifacial and the cutaneous spinal nerves act as excito-secretory nerves, as they certainly do as excito-motory nerves? Nay, might not a dog be made to survive the division of both pneumogastrics, with loss of substance, kept in a cool atmosphere, by cautiously-repeated excitation of the cutaneous excitor nerves?[*]

But the most remarkable proof of the doctrine which I am endeavouring to unfold is furnished by the brilliant discovery and the skilful experiments of M. Cl. Bernard:

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[*] Memoirs of the Nervous System, Mem. II., Plate II.

[†] Experimental Researches in Physiology and Pathology, p. 19. New York, 1858.

[*] It is quite as certain that the ganglionic may not contain centripetal *excitor* fibres, as the pneumogastric does centrifugal motor. How, for example, is vomiting produced after the complete division of both pneumogastrics? How are the mammæ, the ovaria, and the uterus reciprocally affected? It can only be said that the pneumogastrics are principally centripetal and excito-motor, and the principal internal excito-motor nerves.

If the pneumogastric nerves be divided in the neck, the formation of sugar in the liver is arrested; if the *lower* portion of these divided nerves be galvanized, no effect is produced; but if their *upper* portion be galvanized, the formation of sugar is restored.

By division of the pneumogastric, then, the *exciting* cause of the formation of sugar in the liver is *cut off*. This cause, according to M. Bernard, acts in the lungs, just as upwards of twenty years ago, I first stated that the *usual* exciting cause of inspiration does. Its course is, in like manner, centripetal, along the pneumogastric nerve. Its place is, in some sort, supplied by galvanizing the *centripetal* portion.

Again—The glycogenic portion of the liver is augmented by *exciting* a certain point of the medulla oblongata.

Thus we have *two* portions of the cycloidal nervous arc demonstrated. The *third* is—the ganglionic nerve, proceeding from the solar plexus to the liver; and the arc is complete.

I must now observe particularly that the excito-motory and excito-secretory actions are frequently, perhaps generally, *combined*, in living beings. Thus a particle of sand exciting the trifacial of the conjunctiva, excites, through it, the facial and the ganglionic nerves, and produces, at one and the same time, an invincible closure of the eyelids and a copious flow of tears. Carbonic acid evolved in the lungs, excites the pneumogastric, and through it, the intercostals, the bronchial, and the ganglionic nerves, and inspiration, bronchial action, and methæmatous phenomena.

But the most extraordinary examples of excito-motory and excito-secretory action, reciprocally or combined, are presented by that *triple* system consisting of the ovarium, the uterus, excito-secretory in the mamma, chiefly.

Other parts, not less remarkable, but of an order less connected *inter se*, are the effects induced by undue acidity in the stomach on the *action* of the diaphragm or heart and on the *secretion* of the mouth or of the kidney.

Not less remarkable is the *equally* allied series of motor and secretory phenomena, the result of mental *emotion*, constituting a most interesting subject of new inquiry.

The *pathology* of the excito-secretory sub-system remains to be investigated and traced. A partial keen current of air falling on *any* portion of the skin may induce inflammation in *any* susceptible internal organ. An extensive burn or scald is apt to induce pneumonia.

In epilepsy, I have constantly observed that the secretions, as well as the movements, are morbidly affected, and especially those of the mouth, the stomach, the liver, the kidneys, both *before* and *after* the attack: an apple-odour of the breath, a loaded tongue, undue acidity in the stomach, morbid alvine excretions, excessive deposits of the urates, are the most observable. The entire skin acquires at length a leaden hue peculiar to epilepsy, a hue which tracheotomy has removed, as in Mr. Mackarsie's well-known case —whilst it restored the intellect.

There is not, perhaps, a point in the general cutaneous surface in which tetanus—an excito-motor effect—may not originate; there is scarcely a part from which internal inflammation—an excito-secretory—may not be excited. There is no part of the muscular system which is not under the dominion of this excito-motor power; no part of the vascular system which is not linked with the excito-secretory sub-system.

But here I close this brief communication. My present object is only to draw the merest sketch of this vast subject, which demands a most extensive and cautious series of experiments and observations. The efforts of many labourers, through many years, will be required fully to develope the *two* sub-systems of *the Diastaltic Nervous System.*

I propose, shortly, to treat this important subject at greater length and with more details.

December 25th, 1856.

THE HISTORY AND PRACTICE OF URETHRO-PLASTY.

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No. I.

IN endeavouring to develope some rules adapted to guide our practice in the treatment of the more formidable examples of urethral fistula, I shall present a brief history of the steps by which modern surgeons have advanced the practice of urethroplasty; and for this purpose shall refer to their own histories of certain typical examples, with such records of the operative procedures which have been actually performed, of the difficulties which have arisen, and of the means by which they have been surmounted, as shall furnish valuable suggestions to those who may hereafter be called upon to deal with similar cases. It may be observed, that each operator who has had much experience has hitherto purchased the success which has ultimately crowned his efforts by some positive failures at the outset; but they have been of such a nature that a careful study of these unsuccessful efforts will do much to secure us against a repetition of them. And as no two cases of this kind are quite parallel, each presenting some character which tends to individualize it, a special and independent mode of action must be often necessary. Still it will be generally most desirable to regulate it by certain principles, educed from the experience of others. Hence the value of those records to the practical surgeon.

In entering upon the subject, it is incumbent to advert to the fact—now, apparently, somewhat overlooked—that to English surgery must be awarded the honour of originating plastic operations for the reparation of loss of substance in the male urethra. So closely associated with the progress of reparative surgery at the present day have become, and most justly so, the names of Dieffenbach, Roux, Jobert, and others less familiar to the ear, that the first referred to seems almost to have been forgetten even here, and the art itself in a fair way of being popularly regarded as exotic to our soil. It is also a fact, that while the exercise of surgical skill in the repair of certain lost or mutilated parts is of most ancient and venerable origin, its application in the manner denoted dates from the present century.

The earliest traces of the practice of plastic surgery must be sought amidst the dim traditions of Egyptian history, and subsequently amongst those of other oriental nations. Certain orders of the priesthood in India appear to have undertaken with considerable success the restoration of lost noses, lips, and ears; but we do not hear of any proceedings relating to the reparation of other parts of the body. In Europe, about the middle of the fifteenth century, the first records of the art commence; but these are almost lost sight of in the fame of Taliacotius, professor of medicine in the following century at Bologna, who became celebrated for restoring noses by what has since been termed the Italian method, and his great and learned work on the subject, published in 1597, remains a monument of the erudition, no less than of the surgical prowess of its author. With the death of Taliacotius and his immediate pupils, rhinoplasty remained for a long period in abeyance. It was then revived in Europe from observation of the Indian practice, which became known soon after the year 1790; and its first reappearance in this quarter of the globe took place in England in 1803, in the hands of Mr. Lucas, while it was first successfully practised by Mr. Carpue, in 1814. Since that time, plastic surgery has received a new impulse, commencing in Germany with the labours of Gräfe, and in France, not until some years afterwards, in the practice of the leading surgeons of that time—Delpech, Larrey, Dupuytren, Roux, Velpeau, and others. Up to this time, however, the mutilated urethra had not been restored by the exercise of surgical skill.

These and the subsequent remarks are elicited by certain observations made by the modern exponent of plastic surgery in France, M. Jobert (de Lamballe), in which he formally claims for his country the honour of giving rise to urethro-plastic surgery.[*] Such a pretence is wholly at variance with facts, neither are any adduced in support of of it. In narrating the history of reparative surgery, the illustrious Roux equally overlooks the facts to which I am about to call attention, claiming *all* the novel and original enterprises in the department of our art as the offspring of the genius of French surgery—" elles appartiennent toutes à la chirurgie française."[†]

After a careful investigation of the English, French, and German literature which relates to the subject, I proceed to affirm that the first case on record, or of which any tradition exists, of an autoplastic operation having been performed for a fistulous opening of the urethra, is one that occurred in the practice of Sir Astley Cooper, by whom the proceeding was designed and executed with the most successful issue. The history is given at length in his " Surgical Essays."[*] The following is a brief outline of it:—

Mr. H——, aged fifty-six, had long been the subject of stricture. In July, 1818, he had inflammation and abscess in the perinæum, and also anterior to the scrotum. After discharging their contents, the former healed, but the latter remained fistulous, and resulted in an opening, " half an inch in length, and of sufficient width to admit with ease the largest catheter." In November, most of the urine passed through the opening; its edges were callous, notwithstanding the frequent application of nitrate of silver, and showed no disposition to heal.

Dec. 9th.—An elastic catheter being passed into the bladder, Mr. Cooper pared the edges of the opening, and then from the skin of the scrotum he dissected a flap attached by its upper part, and turned it over upon the wound, to which it was exactly fitted, and placed in good apposition by four points of interrupted suture, assisted by adhesive plaster. A bandage was applied to support the scrotum, and the catheter was left in the bladder.

10th.—A little urine passed through the wound.

13th.—Urine has again appeared by the wound; scrotum swollen.

15th.—Dressings removed; parts in good apposition, but œdematous: sutures retained their hold; fresh adhesive plaster applied. To be dressed daily in a similar manner.

21st.—Catheter was changed for the first time the day before yesterday; upper and left side of flap united; discharge from the right side.

22nd and 23rd.—Sutures removed, as they were keeping up irritation.

27th.—Catheter again changed; the ununited corner of the flap is maintained in apposition with the subjacent surface by a compress of lint and adhesive plaster.

31st.—Compresses have been applied daily, and have greatly diminished the discharge.

Jan. 10th, 1819.—Adhesion advanced by the use of pressure, but not complete; catheter to be withdrawn every day for a few hours, but no urine to be passed without it.

Feb. 1st.—Passed urine for the first time by the natural passage; none by the wound. To use the catheter in future.

March 3rd.—Has emptied his bladder by catheter up to this time; a very slight oozing occasionally at the right side. To pass urine in the natural manner.

Oct. 14th.—Dilatation has been kept up. The opening has been soundly healed for seven months.

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[*] Traité de Chirurgie Plastique. Par A. J. Jobert (de Lamballe). Paris, 1849. Tome ii. p. 286, *et seq.*

[†] Quarante Années de Pratique Chirurgicale. Par Ph. J. Roux. Tom. i., p. 56.

[*] Surgical Essays. By A. Cooper, F.R.S. London, 1819. Part ii. p. 207.

Exactly thirty years after the publication of this case, M. Jobert writes: "all the autoplastic proceedings which have been employed to cure ante-scrotal fistulæ are derived from the French method, and constitute but varieties of it." (*Op. cit.*, p. 149.) After describing some of the plans followed by Dieffenbach, Alliot, Ségalas, and Ricord, he describes his own method as follows:—

"My proceeding depends chiefly on the necessity of borrowing a flap at the expense of the scrotum, of reviving largely the external and internal circumference of the fistulæ, of maintaining the raw surfaces in contact by the interrupted suture, and finally of exercising a gentle compression upon the parts by the aid of agaric and adhesive bandages, and of a gum-elastic catheter introduced into the bladder, which at all times serves as a point of support, and as a conductor for the urine."—p. 162.

It may be left to my reader to determine whether the proceeding of M. Jobert differs in the smallest particular from that adopted by our illustrious countryman so many years before.

Without pursuing this subject further, it may be stated that M. Blandin had admitted the prior claim of the English surgeons in the following language:—"This operation (urethroplasty) was at first practised in England by Earle and Sir A. Cooper, since which it has been done by many surgeons of all countries."* It must be admitted that M. Jobert adverts, although in the slightest manner, to the fact implied in Cooper's case, but he wholly ignores it in the tenour and spirit of his writings, not only in the passage referred to, but in several others of a similar character.

Sir A. Cooper's case was soon followed by another in the practice of Mr. Earle, of Bartholomew's Hospital, in the year 1819.

The patient had lost a large part of the integument of the perinæum by extravasation of urine, and "a large, smooth cicatrix occupied the place of the urethra, no vestige of which remained at that part." Having dilated the anterior part of the canal, Mr. Earle determined to employ the "smooth cicatrized surface, as it had become insensible to the irritation of the urine, in the formation of a canal, and to endeavour to connect by it the two portions of the urethra." Accordingly, "a portion of integument was removed, about an inch and a half long, and one-third of an inch in width, on the left side of the cicatrix, the groove thus formed being intended to receive the edge of skin to be detached from the opposite side. An incision was then made across the perinæum, above and below, so as to pare away the callous edges of the urethra. The cutis was next dissected off from a portion of integument on the right side of the perinæum, about an inch and a half in length, and half an inch broad, leaving a smooth space of rather more than an inch between the cut surfaces, which was intended to form the lining of the new canal. The integuments on the right side were now dissected up, turned over a catheter, and brought in contact with the opposite groove." The flap was retained in its new position by two sutures, some adhesive plaster, and a bandage. Next day, some urine escaped by the side of the catheter; and on the third, although some sloughing had occurred, a sufficient amount of adhesion had taken place to "form a canal open at one side, and large enough to include the whole catheter." Subsequently this was somewhat impaired by the contraction of the cicatrix newly formed in the place from which the flap had been dissected. After this had ceased, several attempts were made to unite the edges by reviving them, and placing them in contact, but all failed.

In 1820, a second operation was performed.

"In this attempt," says Mr. Earle, "I borrowed integuments from the opposite side to that I had taken them from in my first. A deep groove was made on the right side, the surface was denuded of its cutis to some extent, a considerable portion of integument was then detached from the left side, and in order to obtain healthy skin, I encroached a little on the thigh, and laid bare the edge of the fascia lata. Instead of passing any ligature through the detached portion, the old quill suture was employed, which was passed from the two outer cut surfaces. A pad of adhesive plaster was interposed between the ligatures and the flap of skin, to diffuse the pressure more generally, and my patient, being now quite an adept in passing the catheter, was directed to introduce it about three times in the twenty-four hours, instead of retaining it in the bladder, which had permitted some of the urine to pass insensibly away, and had acted prejudicially in the former operation. By this attempt much more was gained, and about two-thirds of the canal were completed; still, however, there remained a small aperture at the upper part. We again attempted to close this by denuding the edges with escharotics and the lancet, but it skinned over too rapidly to allow of any union between the opposite surfaces. A third operation, on a smaller scale, was therefore necessary, which so nearly completed the cure as to leave only an orifice large enough to admit a bristle, which has subsequently closed, and at the present time (March, 1821) he remains perfectly well, and is able to expel the contents of his bladder *pleno rivo.*"

The following foot-note is appended:—"Since the above was written, he has continued perfectly well; he is now married, and a father."*

The plans of proceeding in these two cases were totally different. In the second, the impossibility of preventing contact between the urine and the newly-united surfaces was recognised, and

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* Autoplastie, par Ph. Fréd. Blandin. Paris, 1836. Page 75.
In reference to the history of rhinoplasty, M. Blandin is equally candid, saying, "A Carpue qu'appartient la gloire d'avoir donné l'impulse, en 1814.....cet exemple eut le plus grand retentissement en Europe; il suffit pour eveiller l'attention, &c."—Idem, p. 88.

* Practical Observations on Surgery. By H. Earle, F.R.S. London, 1823.

Mr. Earle provided for it by employing the catheter three times a day, rather than permit it to remain in the bladder, a plan which has recently been revived in France. In these cases, we have not only the germs, but also to a great extent the development, of those modes of operation which have since been largely adopted in other countries. It is on this account that they have been given with some detail, and it is necessary now only very briefly to sketch the progress of the art down to the present time.

No. II.

Soon after the occurrence of the two cases recorded by Cooper and Earle in our own country, Delpech, of Montpellier, performed a urethroplastic operation, which he detailed in his work on Clinical Surgery.* In this case there had been loss of substance in the perinæum, and through the opening so formed all the urine issued. The borders were revived, a flap adapted from the groin, and fastened by interrupted sutures, and a gum-elastic catheter was retained in the bladder. On the third day the flap became gangrenous, and ultimately entirely sloughed. Subsequently some contraction of the orifice was induced by caustic applications, but the man was not much benefited by their employment.

The writings of Dieffenbach, which present us with a most complete systematic history of a large practical experience in the exercise of plastic surgery including urethoplasty as an important division of the general subject, come next under review. This distinguished surgeon recorded many of his observations in the form of papers or memoirs, which were published at Berlin between the years 1829 and 1834, in four parts, and were entitled "Chirurgische Erfahrungen." Many of his earlier experiences were failures, and it was only after a long and patient perseverance in the endeavour to test the value of various operative procedures that his efforts were crowned with success. Subsequently, the results of his practice were recorded in "Oppenheim's Journal," before referred to; in the "Handbuch der Plastichen Chirurgie," by Zeis, published at Berlin in 1838; in his own work on "Operative Surgery," Leipsic, 1845; and, more fully still, in a volume devoted to plastic surgery, and dedicated to him, by Drs. Fritze and Reich, published at Berlin, also in 1845. From these sources chiefly have been selected the following modes of proceeding, as those which appear to have been the most generally applicable, and the most successful in their results.

In dealing with the antescrotal fistulæ which were too large to be remedied by the "lace suture," described in a previous paper—that is to say, such, for example, as would permit the introduction of a full-sized catheter—Dieffenbach tried the following method, and generally with but indifferent success. It is briefly given here because it formed the stepping-stone to a modification of the operation which was much more perfect in its results.

A large catheter having been introduced into the bladder, the rounded orifice of the fistula is converted into a lozenge-shaped one, by the removal of a small piece of skin above and below it, as indicated in Fig. 3 by dotted lines. The point of a fine scalpel is next to be carefully carried by successive strokes beneath the skin, so as to detach it from the subjacent structures for about half an inch in every direction round the opening, while the walls of the fistula are also revived. The free borders thus made are to be brought together by means of twisted sutures, in the median lines, so as to cover the fistulous opening, as seen at Fig. 4. This done, two incisions through the skin are made, one on each side, to relieve tension. The catheter is to be retained for a few days, the end to be accomplished being the adhesion of the newly opposed raw surfaces, which, if attained, closes in the fistula. In practice, however, it was found that the flow of urine by the side of the catheter prevented reparative action.

FIG. 3.

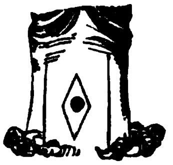
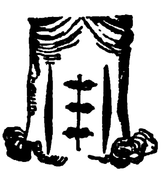


FIG. 4.



The result led Dieffenbach to add the following step to the operation. After the completion of the proceeding as far as already described, he next dissected beneath the skin *at the outlying lines of incision*, in the direction inwards,—i.e., towards the fistula,—so as to completely detach the integument lying between the two incisions from the subjacent parts, thus converting it into what he terms "a bridge," for the purpose of permitting urine to escape from the fistulous opening at the lower extremity of either incision. This condition is indicated by the probe seen to be passed beneath the skin at Fig. 5. Although sometimes failing, this method may be regarded as affording a very fair chance of success, provided that the aperture is not too large. It is based, as will be observed, upon the principle of bringing into contact, *not mere edges of thin tissue*, the adhesion of which cannot be expected to take place, but broad surfaces freshly revived, and maintained in apposi-

FIG. 5.

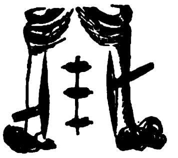


FIG. 6.

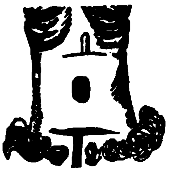


FIG. 5—Dieffenbach's method, "by lateral bridges" and twisted sutures.
FIG. 6—Nélaton's modification in the situation of the incision.

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* Chirurgie Clinique de Montpellier, par le Prof. Delpech, tome ii., pp. 581-4. Paris, 1828.

tion by light compression. It may be laid down, however, as a general rule, that success is not to be expected by this operation if applied to openings that measure more than the third of an inch in any direction.

A very slight modification of Dieffenbach's plan has recently been proposed and practised by M. Nélaton, of Paris, which consists in making the outlying incisions above and below the fistula, instead of laterally, as recommended by Dieffenbach. It is supposed that this affords a still better chance of permitting the free escape of urine. The first account of this method appears in the *Gazette des Hôpitaux* of Aug. 10th, 1852; but a much fuller description is given in the same journal for March 28th, 1854. The upper and lower incisions should be distant each about an inch from the fistulous opening, and the skin should be completely detached from the subjacent connexions, commencing at the borders of the fistula, the dissection being carried up to the incisions as well as in a lateral direction (see Fig. 6). Again, since the use of the twisted suture is sometimes attended with gangrene of the skin included in it, and the operation becomes sometimes thus defeated, it is proposed not to close the opening by any suture at all, but to permit it to contract by itself, at all events for a few days, when one or two pins, at most, will bring together the granulating surfaces, and enable union to take place in a few hours. A case is recorded in the journal already named, in which the last-mentioned plan of proceeding was successful in the hands of M. A. Richard, who temporarily replaced M. Nélaton at the Hôpital des Cliniques in December, 1853, after no less than five preceding operative failures.

In cases where the deficiency was somewhat more considerable, Dieffenbach proposed, after making incisions according to his own plan by "lateral bridges" before described, but more extended, and placed further apart in proportion to the size of the opening, to bring together the borders of the fistulous orifice in the skin, not with a few points of twisted suture, as just advised, but with lateral leather splints. For this purpose, two strips of leather are prepared, about three lines broad, and rather longer than the opening to be closed, each perforated by three small holes, to permit a suture to be passed through. These are to be applied laterally to the two borders, previously raised and placed with their raw surfaces in contact, and the needles are to be passed through the holes in the splints and the two layers of skin together, so as to ensure perfect approximation and the contact of considerable planes of surface for adhesion. The author states that he has not yet made trial of this suggestion, but we shall find hereafter that it has been successfully employed by Mr. Le Gros Clark in our own country, with whom the idea of employing this means appears to have been perfectly original.

I had occasion to perform the operation described as M. Nélaton's modification of Dieffenbach's method by "detached bridges," nearly two years ago, in the case of a man who had lost a large portion of his urethra, amounting to fully an inch and a quarter of its floor and sides, anterior to the scrotum. He had previously been under my care for extravasation of urine, producing enormous sloughing, from which he fortunately escaped with his life, but with the mutilation referred to. When he had completely recovered, I proceeded according to the method delineated at fig. 6, by detaching the skin from its subjacent connexions above and below the fistula, as well as on each side. But this was too large an aperture to be successfully treated on this plan, and, with my present experience, I should certainly not adopt it. It is to be regarded as applicable only to openings which certainly do not exceed half an inch in length; nevertheless, there were some reasons in this case for selecting this operation, at all events for the initiatory attempt. First, there had been sloughing of the scrotum to a considerable extent, so that it would not be very easy to form a flap sufficiently large from that part, and in a suitable position for the purpose, at all events without including some cicatricial tissue in it, which it would be undesirable to do. Secondly, the surrounding skin of the penis was loose, abundant, and would easily supply the required flaps or "bridges." Thirdly, supposing the operation to be unsuccessful, the scrotum would still be in no worse condition to furnish a flap, should it be determined afterwards to attempt the cure by that method.

Without detailing the history of this case, I may say that it was conducted strictly according to the plan adopted by Nélaton, detailed before; that the gushes of urine which would sometimes, in spite of all care, issue through the large antescrotal opening, broke up adhesions which, during the first three days, promised well, and caused gangrene of the flaps or "bridges," leaving the man ultimately in about the same, certainly in no worse condition than he had previously exhibited.

Shortly after this, I was witness of a precisely similar operation, performed by Mr. Erichsen in University College Hospital. In this case, there were two fistulæ, one perineal, the other antescrotal. The former had been previously treated with success by a plastic operation, and the second, the orifice of which was about the size of a pea, and situated immediately in front of the scrotum, was then submitted to the plan described, and the result, after two or three applications of lunar caustic, to close a very small aperture remaining, was completely satisfactory.

No. III.

To return to the procedures of Dieffenbach. He proposed another method, adapted to the closure of openings similar in size and situation to those last considered. In this case the skin, instead of being moved transversely from the sides of the penis, is moved upwards from the scrotum. A catheter having been introduced into the bladder, the fistulous opening is included between two elliptical lines of incision, passing in a transverse direction, one above, the other below it. The surface so marked out, and with it the border of the opening, are then to be lightly pared (Fig. 7, *a a*). Next, another transverse incision, of about two inches in length, is to be carried through the skin at the root of the penis,—that is, at about an inch beneath the lowest elliptical incision and parallel to it (indicated by a straight line at *b*). The bridge of skin thus formed is to be carefully dissected up from its cellular connexions. The bridge being now movable, is drawn up so that its superior border comes into contact with the line of skin marked by the upper elliptical incision, and maintained there by five or six fine hare-lip pins and twisted sutures (Fig. 8, *a a*). A raw surface will be seen below, caused by the moving upwards of the bridge.

FIG. 7.

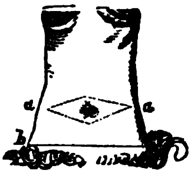
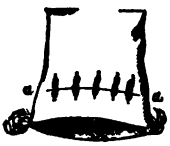
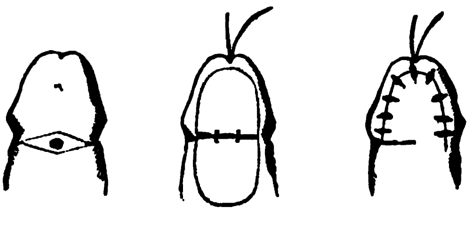


FIG. 8.



Another operation by Dieffenbach, to be noted here, is one which he has several times successfully peformed for the closure of openings into the urethra immediately behind the glans, in the situation of the frænum. Such are usually the result of chancrous ulcerations. He commences by making two elliptical incisions, as in the last method, one transversely above, the other below the opening, and in making raw the surface so included (Fig. 9). The upper and lower borders are then brought together by two points of interrupted suture, one end of each being brought out, before the knot is closely tied, at the external meatus, the other end being cut off as short as possible. The necessity for so arranging the thread arises from the next step of the operation, which consists in covering the wound and adjacent parts with a flap of skin; after which, it will be seen that, in order to withdraw the sutures at the appointed time, their ends must have been previously placed in the position indicated. First, the skin of the adjacent surface of the glans is to be pared to the extent and in the form indicated by the semicircular dotted line above the closed wound, as seen in Fig. 10; after which, the prepuce being well retracted, a corresponding portion of its inner surface, thus exposed, is pared also: shown by the semicircular dotted line below the wound, in the same figure. The prepuce is now to be drawn forwards, the two semicircular surfaces brought into apposition, and contact maintained by six or seven twisted sutures. This, the final stage of the operation, is represented in Fig. 11.

FIG. 9. FIG. 10. FIG. 11.



Figs. 9, 10, and 11, exhibit the first, second, and third stages of the operation described in the text.

When the prepuce is deficient or absent, as in the case of those who have been circumcised, Dieffenbach proceeded in the same manner up to that step of the operation which consists in paring the part above the closed wound, and then obtained a flap from the nearest loose skin remaining on the under surface of the penis. In this situation it is dissected up, but still attached by a pedicle to the skin of the dorsum, and brought into contact with the revived surface.

One other operation only remains to be mentioned. The description, which is necessarily long, need not be entered upon, more especially as the procedure may be regarded as almost if not entirely superseded by improved methods of operating. It was intended to be applicable to large fistulæ situated about midway between the scrotum and the glans. It consists in dissecting up the skin from the entire circumference of the penis, in order that an annular portion may be made to glide half-way round the organ: the result of which is, that the sound dorsal skin covers the opening at the inferior aspect, and that the part at which the aperture exists is brought round to the dorsum. For details, the reader is referred to Dieffenbach's writings.*

A method adopted by M. Alliott of Montagny, in the year 1833, for closing an antescrotal fistula, of moderate size, next demands attention, as it was completely successful, and differed in some respects from any which had been previously employed. It consists in forming a flap from the skin on one side of the fistulous opening, in drawing it over, and in adapting it, not upon the opening itself, but to a raw surface previously made to receive it upon *the other side*. Thus the fistula is covered in by the base of the flap, whilst the greater part of the uniting surfaces is not in the track of the urethra, but on the other side of it. This case is detailed at length in the *Gazette Médicale de Paris*, 1834, p. 348.

A recommendation offered by M. Blandin may be appropriately mentioned in this place. It is, to apply an operation adopted by Velpeau for the closure of the tracheal fistulæ to similar openings in the urethra, and by him also applied to other apertures besides those in the trachea. It consists, first, in paring the margins, and entire inner surface of the unnatural passage; secondly,

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[*] Dieffenbach, *op. cit.*, p. 565.

in dissecting up an elongated rectangular flap, the base of which is near to the fistula; thirdly, in rolling up the flap so that the cutaneous surface is inside, and the raw surface outside, in such a manner as to form a plug, which is then to be introduced into the orifice, and fixed there by one or two pins and twisted sutures, or by adhesive plaster alone, according to circumstances. By these means freshly revived surfaces are brought into contact, and adhesion takes place. M. Blandin reports at length a case of tracheal fistulæ, in which this method was applied with success after the failure of other operations.*

The proceedings of MM. Ségalas and Ricord next claim to be examined in order of time, and also of importance in relation to the history of urethroplasty. We shall, however, be better prepared to estimate the value of the principle which has been introduced into practice by these gentlemen, by first referring to the experience of M. Jobert, which, although gained at a somewhat more recent date, is well known to have been very considerable, and distinguished by the special interest which that eminent surgeon has devoted to plastic surgery in all its departments. M. Jobert, in his work entitled "Traité de Chirurgie Plastique," devotes chapter the seventh to the consideration of "Autoplasty of the Genital Organs of Man," the subject chiefly regarded being the management of urinary fistulæ. He there presents some illustrative cases at considerable length, and although their details are replete with useful hints for the practical treatment of similar cases, they are so extremely long that a notice of them collectively can only be given in these pages.

The fundamental point of difference between MM. Ségalas and Ricord on the one hand, and M. Jobert on the other, is involved in their different estimates of the extent of injurious influence which the urine exerts upon the process of union between recently revived surfaces in the track of the urethra, and of the various methods of overcoming it. M. Jobert believes that with great attention and care on the part of the surgeon and his assistants, together with much patience and determination on that of the subject of the fistula, the plastic operation alone may be perfectly successful for ante-scrotal openings of the largest size; while Ségalas and Ricord assert that a more certain, speedy, and satisfactory result will be obtained by first making an artificial opening in the perinæum, and withdrawing all the urine by the new channel. It will appear, from a study of the cases reported, that the conclusions drawn on both sides may be looked upon as fairly established.

In M. Jobert's cases, treated by transplantation of a flap (this being maintained in its new position with sutures in the usual way), the exit of the urine was provided for by maintaining constantly in the passage a gum-elastic catheter, but the union was often totally wanting, and was never otherwise than incomplete at first. The flow of urine outwards through the wound could not be prevented, and the track by which it issued was always marked by non-union. Consequently repeated operations were frequently necessary on the same individual. At best not more than two-thirds of the flap united at the first attempt; sometimes not so much as that. A troublesome fistula still remained, and fresh paring and reparing, stitching and cauterizing, were necessary on several occasions before a successful result was arrived at. It is impossible to read carefully the histories of these cases, as well as those of others who have pursued a similar course, without being impressed with a strong conviction that the presence of urine is the great obstacle to success; nor can the observer fail to mark how futile is the attempt to defend the wound from its deleterious action by maintaining a catheter in the canal. The urine, rising almost constantly by capillary attraction between the surfaces of the urethra and the instrument, is, by the presence of the latter, so far from being removed or carried safely away from the recently cut surfaces, rather brought into more frequent or continuous contact with them. These parts are preserved, it is true, from the effects of a gush of urine at the act of micturition, but the condition just described, not less inimical to the process of adhesion, is almost inevitably a concomitant one.

In order to obviate the difficulty so presented, it has been proposed to make an opening in the perineal part of the urethra upon a grooved staff behind the fistula, and through it to introduce a catheter into the bladder, so as to divert the entire current of urine from the anterior part of the urethra, and afford to the plastic operation, the performance of which should not take place until at least three or four days subsequently, a greatly improved chance of success. M. Jobert, however, stoutly opposes it, chiefly on the ground of the presumed dangerous nature of the operation. I am compelled, however, to record a respectful but very decided dissent from that distinguished authority in relation to this matter, and to give my adhesion to the practice of MM. Ségalas and Ricord. Having been myself concerned in not less than thirty or forty cases of operation upon the urethra, in which that canal has been opened in the median line from the perinæum, I am in a position to state, from an observation of their results, that the incision referred to does by no means constitute a dangerous operation, and is not therefore open to objection on that score as a preliminary step in the treatment of extensive and obstinate ante-scrotal fistulæ.

In concluding this paper, it may be remarked that Dieffenbach himself latterly supported this practice. His opinions respecting it shall be cited at the commencement of the next paper.

Wimpole-street, Cavendish Square, 1857.

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* **Autoplastie. By Ph. Fréd. Blandin, Chirurgien de l'Hôpital Beaujon. Paris, 1836, pp. 154 to 163.**

ON THE FERRUGINOUS TREATMENT OF PRIMARY SYPHILIS.

BY HENRY BEHREND, Esq., M.R.S.E., Liverpool.

(Concluded from January No., p. 55.)

Comparison of the Mercurial and Ferruginous Treatments.—I had been for some time desirous of watching the progress of two cases of primary syphilis under the old and present system, when, on the 12th of May, 1855, two soldiers came into hospital, one suffering from several chancres, the other from a single one. I gave the former the potassio-tartrate, the latter blue pill; and it will be seen that the result was decidedly favourable to the treatment with iron.

May 12th, 1855.—Charles L——, aged eighteen, admitted into hospital, with four or five chancres around the internal surface of the prepuce, extending to the free edge; some preputial œdema. To take the potassio-tartrate and apply it as a lotion.

14th.—Great improvement; all the sores look healthy and discharge but slightly.

16th.—The chancres have continued improving up to this day, but they have now assumed an unhealthy aspect, are inflamed and coated with a thick yellowish secretion; no pain. Continue.

18th.—The unhealthy action has quite ceased, and the sores are rapidly cicatrizing.

19th.—Cicatrization complete.

20th.—Discharged cured.

May 12th, 1855.—Thomas W——, aged twenty-nine, admitted into hospital with a chancre of the frænum; no pain; a very slight case. Touched the sores with caustic, and ordered the potassio-tartrate lotion, and five grains of blue pill three times a day.

14th.—Sore cleaner; discharge healthy.

18th.—The gums are slightly touched; the sore improving. To take two pills daily and continue the lotion.

20th.—Continued improvement; the chancre rapidly improving.

24th.—Discharged cured.

He was readmitted on the 7th of June, with bubo of the left groin: poultices were applied, the bubo lanced, and he was finally discharged, June 24th.

Urethral and external chancre; bubo; combination of mercurial and ferruginous treatment; cure in five weeks.—Peter B——, aged twenty-one, recruit, contracted chancre six weeks ago; a fortnight later, a bubo appeared in the right groin. Shortly after perceiving the sore, he was treated with blue pill and black wash, but he has led an irregular life since, and has not steadily persisted in the treatment. The bubo was lanced. He presented himself before me as a recruit sent in from an out-district, on the 19th of August, 1855, and was at once taken into hospital. The bubo is healing; the chancre is exceedingly large and deep, extending from some distance within the canal of the urethra to the juncture of the prepuce and glans, having completely destroyed the frænum; the edges externally are sharply and well defined, and the general aspect of the sore is that of a deep excavation; there is a profuse purulent discharge, and no attempt at granulation. He is a robust, healthy man. The iron treatment externally and internally.

August 24th.—A wonderful improvement in the chancre; externally to the urethra it has granulated rapidly, and is almost level with the surrounding parts; the portion nearest the prepuce is ready for cicatrization.

27th.—A part of the sore near the urethral orifice, and another portion near the prepuce have cicatrized, dividing the ulceration into three segments, all of which present a healthy appearance.

31st.—While the ulceration external to the urethra is contracting daily, that which is internal, and of course beyond the reach of the local application, is extending both in circumference around the orifice, and in depth within the canal. He feels now pain in micturition.

Sept. 7th.—The external portion of the chancre is almost entirely healed; the external part, however, does not appear to progress. To cease taking the potassio-tartrate internally, continuing it locally; to take four grains of blue pill three times a day.

22nd.—He has taken thirty pills. There is a sensation of numbness in the gums; the sore internally is progressing favourably and nearly healed; the external sore has long since disappeared, except immediately around the orifice. Micturition causes no pain. To cease the pills and continue the lotion.

26th.—The chancre is perfectly healed. Discharged.

Nearly all the cases above related remained under my supervision, as one of the medical officers of the regiment, for many months, some for a year, subsequently to their discharge from hospital. *Not one had a single symptom of secondary syphilis. I have not had a single case of secondary or constitutional syphilis after treatment with the potassio-tartrate of iron alone, either in hospital or private practice, and the only two instances in which secondary symptoms have appeared since I commenced this plan of treatment have been in cases where I combined the iron with the mercurial treatment.* With one of these, which occurred in military practice, I shall conclude the detail of this class of cases, and proceed to those in private practice, which present a greater degree of variety and severity, and therefore test the remedy more fully.

Phagedænic chancre; combination of mercurial and ferruginous treatment; cure in six weeks; secondary symptoms.—Joseph S——, gunner, age twenty-three, admitted into hospital on July 28th, 1855. A large and deep chancre, of unhealthy and phagedænic aspect, exists on the body of the penis, about an inch behind the glans. It appeared the sixth day after connexion, and he noticed it four or five days ago; since then it has rapidly increased in size. He has no pain when he remains quiet, but the slightest touch or friction causes severe suffering. The potassio-tartrate of iron treatment.

Aug. 1st.—The sore has now assumed a perfectly phagedænic aspect, is of irregular circular form, and secretes a thick, scanty, and tenacious discharge. To remain in bed.

3rd.—The chancre is improving, more regularly circular and granulating; discharge less tenacious. Considerable œdema of penis.

6th.—Granulations have now rendered the sore nearly level with the surrounding parts; they are, however, of an unhealthy character, and the secretion remains the same.

8th.—The chancre appears stationary. The hospital orderly reports that he is very careless in attending to the local application to the sore. To have a pint of porter daily.

9th.—Touched the sore with the nitrate of silver.

11th.—The chancre has now contracted to about half the original size; the discharge continues healthy, but is thin. Continue the treatment, and the daily application of the lunar caustic.

13th.—The caustic has produced an artificial cicatrix over the chancre. To apply cold water until it is removed.

14th.—The cicatrix has come away to-day, leaving a healthier surface beneath, but the secretion is not improved. To continue the iron.

27th.—The chancre has considerably increased in size during the last fortnight, and has now the appearance of a sloughing sore, elevated, and with defined edges.

Sept. 7th.—Since the last report, the sore has taken on a healthier action, and has contracted daily; it is now about a third of its original size. He has had it frequently touched with the nitrate of silver, and has continued the iron lotion and mixture. He is now to cease the latter, substituting three four grain blue pills daily, and to continue the lotion.

10th.—The sore is now healed.

11th.—The cicatrix is firm. He has taken twelve pills. Discharged.

The patient was re-admitted on the 2nd of October, suffering from pains in the limbs and syphilitic psoriasis. I ordered the iodide of potash in sarsaparilla. He was discharged cured on the 18th.

Of the cases of primary syphilis which have presented themselves to me in private practice, I will give the notes of four, in each of which a course of mercury had been unsuccessfully employed by other medical men previously to my being consulted; in all a perfect and speedy cure was effected by the potassio-tartrate of iron. It will be perceived that they were all cases of a severe and complicated character. The additional points to which I would direct attention are—firstly, the advantage, as a general rule, of good diet and some stimulant in the treatment of the primary sore; and, secondly, the extreme utility of the tincture of iodine as an application to buboes. This remedy is a favourite one in the Parisian hospitals, and a recent writer, M. Joliclerc, states, as the result of long observation, that he has found it by far the most reliable method of treatment in the prevention or removal of fluctuation, and also as facilitating the healing of the bubo, if it have been already opened.

Chancres of prepuce; bubo; gonorrhœa; orchitis: cure of chancres with the ferruginous treatment in a week.—I was sent for hurriedly in the evening of April 25th, 1855, to see Mr. L——, a midshipman in the Royal Navy. He had been applying leeches to the scrotum, and was alarmed at the hæmorrhage; but perceiving the alarm to be needless, and the testis to be painful and enlarged, I recommended him to encourage the bleeding, and ordered him an anodyne draught, without further investigating the case. On inquiring into the history the next morning I found him suffering from orchitis, gonorrhœa, chancres of the prepuce, and slight bubo in the left groin. Upon his return from sea about three weeks ago, he had visited two women at Portsmouth, at an interval of three nights, and perceived the chancres and gonorrhœa about the same time. He did nothing at the time, but upon his arrival at Liverpool the chancres were touched with caustic, and he applied black-wash. He had persisted in this treatment for about ten days. The orchitis of the left testis being the most painful symptom, I relieved that first, prescribing the constant application of zinc lotion for forty-eight hours and subsequently of soap-plaster spread on leather, and a suspensory bandage.

April 29th.—The orchitis much better; no pain on pressure. To leave his bedroom, continuing the mechanical support. The enlargement of the gland in the groin has completely disappeared. The gonorrhœal discharge is copious. To take three of the copaiba and cubebs capsules twice a day. The chancres are three in number, situated at the fold of the prepuce and glans, slightly raised above the surrounding level by exuberant granulations, and discharging freely. Touched them with the solid nitrate of silver, and commenced the ferruginous treatment locally and internally.

May 1st.—Great improvement; the sores are now level with the parts around, the granulations healthy, and the suppuration less copious; one is nearly cicatrized; the gonorrhœal discharge is very slight.

3rd.—He is so much better as to go out daily and walk a considerable distance.

6th.—Chancres completely healed.

Chain of chancres of the corona glandis; unsuccessful employment of mercury for five weeks: cure by the ferruginous treatment.—J. B——, aged thirty-two, captain in a Dragoon regiment, had been much in India, and was peculiarly susceptible to the venereal virus. After suspicious connexion, the entire corona glandis was studded with small chancres, forming a chain which completely encircled the part. He was ordered fifteen grains of blue pill daily, confinement to the house, abstinence from wine, and black wash and caustic as local applications. Having lived in hot climates, and taken quantities of mercury at various times, the drug produced but slight effects upon his system. He persevered in the treatment for five weeks without any symptom of improvement; he had lost strength and appetite, and was in very low spirits; and, apart from a slight pallor of the gums, there was no evidence of mercurial action. The chancres were secreting a thin, ichorous discharge, and instead of forming a chain of sores, many of them had coalesced into a deep ulcer; the frænum was intact. I saw him first on the 14th of March, 1855, and at once recommended him to make an entire change in the treatment, to discontinue the mercury and mercurial applications, to substitute the potassio-tartrate of iron, to live well, and to drink a bottle of claret daily. The sores at once improved, the ichorous discharge gave place to a thick and copious suppuration, and granulations sprang up rapidly. In a week he was able to drive out, and in a fortnight the entire chain of sores was completely cicatrized, with the exception of a point scarcely larger than a pin's head, which yielded to the local application a few days later.

Chancres of prepuce and frænum; bubo; unsuccessful employment of mercury for five weeks; cure by the ferruginous treatment in three weeks.—On the 25th of January, 1856, I was consulted by Captain C——, of the Swedish merchant service. He contracted syphilis five weeks ago in Falmouth. A chancre appeared on the glans near the frænum; and, a week later, when in Dublin, he perceived a second one on the prepuce. Subsequently a gland in the left groin became enlarged. He was ordered blue pill and a lotion, the nature of which I was unable to ascertain, and nitrate of silver had been frequently applied. He took the pills until the mouth was affected, when he ceased for a few days, and then resumed them up to the present time, when he is again under the influence of the mercury. Under this treatment, he states that the chancres have enormously increased in size. He was recommended to abstain from all stimulants, and has taken very little meat, having been kept on low diet. When I first saw him, on the 25th of January, five weeks after the appearance of the disease, I found two very large chancres; one having completely destroyed the frænum, and extending to a considerable distance behind and in front of it, broad and superficial at the extremities, but forming a deep narrow chink in the centre, whence purulent matter welled up; and the other, on the internal surface of the prepuce, near its junction with the glans, of an irregular circular shape, about the size of a fourpenny piece, and in some spots raised above the level of the surrounding parts by unhealthy florid granulations. He complained of no pain. The bubo has increased in size, but does not fluctuate. I ordered him to cease the mercury and the lotion; to take the potassio-tartrate of iron, and apply it locally, to paint the bubo twice a day with the tincture of iodine; and to have the sores occasionally touched with the solid nitrate of silver: to live well, and take two glasses of sherry and a pint of malt liquor daily. He was compelled to attend to his business, and walk about during the greater part of the day, and the weather was unfortunately very wet and inclement.

Jan. 29th.—The aspect of the sores has much improved; they are contracting; the margins are healthy; and the secretion more laudable. The larger of the two, which had destroyed the frænum, is now level with the surface in the grooved part. He feels stronger, and in better health; and the bubo is rapidly diminishing.

Feb. 7th.—Satisfactory progress. The preputial sore has contracted amazingly; the part of the other one, which is on the glans, is not improving so quickly. This is accounted for by its extending close to the orifice of the urethra, and being exposed to the irritation of the urine, from which all precaution fails to protect it entirely. The bubo has quite disappeared. No further application of the caustic necessary.

14th.—The preputial chancre is quite healed; its progress towards cure was marked and satisfactory. During the last week he has taken extreme care to protect the other sore from the irritation of the urine; it has rapidly improved; and a portion needs only cicatrizing. His general health has much improved by the tonic properties of the iron, and the generous diet.

21st.—Both sores are now perfectly healed, so that even their site is undistinguishable. He is in excellent health, and goes to sea to-morrow.

Chancrous infiltration of the corona glandis; double bubo; urethral discharge; unsuccessful employment of mercury: cure by the ferruginous treatment.—Secondary symptoms; syphilitic psoriaris, tonsillitis, double iritis.—Mr. G——, shop assistant, aged twenty-seven, called to consult me one evening in January, 1856; but not finding me in, went to another medical man in the neighbourhood. The history was that he had no intercourse for a month, when his attention was directed to the parts by a sensation of weight and hardness, and a swelling in the furrow between the glans and the body of the penis. Upon examination, he found the entire furrow ulcerated. He suffered little pain beyond the throbbing and pressure. He remained under the care of the surgeon for a month, took blue pill at first, but soon discontinued it, and applied a lotion. An incipient bubo developed itself in each groin, and the sores remained perfectly stationary. He again consulted me on the 22nd of February. I found the prepuce tense from the effects of pressure beneath; and, on withdrawing it, the groove of the corona glandis was seen to be extremely hard and firm, denuded of skin, and deeply ulcerated over the entire surface. There was but little secretion, and the ulceration was of varying depth, being superficial over the greater portion, but deep in one or two parts. The appearance of the sores was very peculiar. I ordered the potassio-tartrate of iron internally and externally, tincture of iodine to be painted over the buboes night and morning, and good diet. He continued attend ing to his business, standing ten or twelve hours daily, and frequently lifting heavy weights, &c.

March 1st.—Considerable improvement. The hardness and prominence of the sore have much diminished; slight discharge. The buboes are smaller.

9th.—The sores continue to improve. The prominence is, however, more marked, but this is found to proceed from simple œdema. To continue the treatment, and support the penis to reduce the œdema. Patches of psoriasis have appeared on the face, of a decidedly syphilitic character; I attribute this to the fact of the virus having remained in the system unchecked upwards of two months.

15th.—The sores are now very much better, the hardness and prominence have nearly disappeared, and there is no pain. Three days ago, a discharge from the urethra was perceived, and continues; it presents all the symptoms of gleet; the orifice of the urethra is slightly inflamed, but there is not much pain in micturition; he denies having had any recent intercourse. The psoriasis has spread over the greater part of the body, and he has a sore-throat, but merely slight superficial ulceration of the tonsil. To continue the iron lotion, but to substitute for its internal administration the iodide of potash and decoction of sarsaparilla. To apply warm water occasionally to the glans.

22nd.—Improving rapidly; the urethral discharge and irritation have quite disappeared, the induration is also gone, and the sores are almost healed; the psoriasis is decreasing; he is in excellent spirits.

27th.—The sores continue healthy, but their cicatrization appears impeded by occasional chordee. To take the sarsaparilla and iodide of potash twice daily, and the potassio-tartrate of iron also twice daily.

30th.—The chancres are now quite healed. To apply lint moistened in warm water to prevent any friction, ceasing the iron lotion. To continue the medicines.

May 4th.—Thinking himself perfectly well after his last visit to me, he at once ceased taking any medicine. The consequence is, that the cicatrix has undergone absorption, and a small open sore has made its appearance. To continue the iron lotion for a few days, and the internal treatment.

16th.—On visiting Mr. G——, to-day, I found the sore perfectly and firmly cicatrized, and desired him to cease all the treatment. A week ago, slight symptoms of iritis of the left eye appeared, but he made no complaint of it until to-day. The attack is a very marked one, presenting the usual array of symptoms, change of colour of the iris, effusion of lymph, fixed and contracted pupil, photophobia, and great vascularity. I prescribed calomel and opium, poppy fomentations, the sulphate of atropine solution at night, and confinement to his room. In the course of a week, the gums were slightly affected, and the symptoms rapidly gave away. I recommended him to resume the sarsaparilla for some time. A month later, on the 27th of June, the iris of the right eye became similarly, but more severely, affected. The inflammation yielded to a repetition of the treatment, and in the middle of July, having perfectly recovered, I sent him into the country for two months. I have seen him several times since his return, and he has had no recurrence of venereal symptoms.

If necessary, other cases could be cited in proof of the efficacy of the ferruginous treatment of the primary sore; but I think these will suffice to show that it is attended with no ordinary degree of success. If the test of experience confirm the results at which I have arrived, the advantages of this method of cure over the mercurial treatment are too obvious to need any comment. In every case in which it has been administered, the patient's health has materially benefited by a course of this tonic; and if the avoidance of the unpleasant, and at times dangerous, consequences of a course of mercury were the sole recommendation of the proposed plan of treatment, it would be amply sufficient to entitle it to a careful and extended trial. But when, in addition to this, we have the improvement of the constitution by the ferruginous tonic, the good diet, the facility of the cure, the freedom from confinement and restraint, and the immunity from secondary symptoms, the improvement upon the old system of treatment can scarcely be overrated. I am not at present prepared to speak of the efficacy of the potassio-tartrate of iron in constitutional or secondary syphilis, but I have several cases under treatment, the results of which I shall make known as soon as they are arrived at. There appears to be a decided intolerance of the medicine on the part of infants, for in one or two instances in which I have prescribed it for them in the constitutional form of the disease, nausea and vomiting have supervened. My observations, however, have not yet been sufficiently extensive to warrant the expression of an opinion on any other phase of the disorder than the primary sore; and in the treatment of this, after the detail of the preceding cases, I think I am justified in placing full confidence in the therapeutic power of the remedy.

Liverpool, 1856.

ON THE MODE OF USING CHLOROFORM IN MIDWIFERY, WITH THE DESCRIPTION OF A NEW INHALER FOR ITS ADMINISTRATION.

By John Rowlinson Pretty, M.D.

Accoucheurs who approve of the use of chloroform in labour adopt different methods in administering it, and there can be but little doubt that too commonly more chloroform is inhaled than is needed to lull the pains. One accoucheur has stated, that in his practice he allows the patient to hold the inhaler, and when she has received sufficient the hand drops, and so the inhaler is withdrawn. Voluntary motion ought not to be interfered with by chloroform in ordinary labour, and it is of consequence, when chloroform may be administered for a considerable time, to insure its safety by only affecting the cerebro-spinal system to the extent of subduing the pains. It is, too, important not to unnecessarily relax the muscular system, for what induces this would favour the occurrence of hæmorrhage, and, which I have elsewhere mentioned, I believe to be the only feasible objection to its employment.[*]

Applying it on a handkerchief is most objectionable, as the quantity to be inhaled cannot be properly regulated, when it is desired to be given in the first degree, only to stop sensation without removing consciousness. The position, also, of the patient is not favourable for its being thus inhaled, and there is every probability of excoriating the mouth with the chloroform. It is, too, a most troublesome and fatiguing way of using it, as well as a most wasteful one, for an additional quantity would be required for each pain, and the air of the chamber becomes unnecessarily and injuriously impregnated with the vapour, which frequently will prove most disagreeable to the accoucheur, by causing drowsiness or headache. Moreover, this mode of administration precludes his being able to attend properly to the delivery.

If, then, an inhaler be determined on, the difficulty arises of procuring one portable and adapted for the purpose. Dr. Snow's is bulky and inconvenient for ordinary midwifery practice, although most suitable when the full effects of chloroform have to be developed. I agree with Dr. Murphy in preferring "an inhaler that is applied only to the mouth, as the safest mode of administering chloroform that can be adopted:"[†] not that I think with him that the vapour of chloroform entering by the mouth is necessarily diluted by *double* the quantity of air entering through the nostrils, whic *precedes* it into the lungs, and thus "shields the cells from its too powerful influence."[‡] Should respiration be carried on simultaneously by the nostrils and mouth, I demur to the asserted proportions of air passing through each; and even were they reversed, I believe that one half for the nostrils would be too great an allowance, and, which I have elsewhere stated, that I should guess at about one-fifth of the whole inspired. I also do not admit that the air from the nostrils *precedes* that from the mouth into the lungs. If diffusion do not occur, I believe the reverse to be the case; consequently I do not advocate an oral inhaler upon these premises, but rather upon the gradual and small amount of vapour evolved, and consequently inhaled, and which is necessarily greatly diluted with atmospheric air. One fact I have ascertained —viz., that when the chloroform is eagerly inhaled, and the patient gasps at the inhaler,—as she will commonly do in her anxiety to obtain relief from pain,—respiration is wholly performed by the mouth. This is easily determined by placing a piece of glass or thin metal between the inhaler, when applied to the mouth, and the nostrils. If a piece of lighted paper be held in front and a little below the latter, and forcible respiration be made, no flickering of the flame will be produced, nor when extinguished and low combustion occurs, will any effect be produced on the column of smoke. I have, in my work, p. 83, remarked that when the patient gasps at the inhaler, the nostrils should not be taken into account, that the inhaler should be withdrawn, and the patient should be told that unless she inhale quietly she cannot be permitted to have the chloroform. Were it allowed under such circumstances, asthenia would be likely to ensue. The same is embodied in Rule V., p. 86.

Dr. Murphy's inhaler does not answer in practice, as the india-rubber valves are acted upon by the vapour of chloroform, which causes them to curl up, and to become thoroughly useless. I have tried to correct this by having Mr. Rooff's valves attached to it. These act beautifully, and I thought would have answered all I desired. I found, however, that the construction of the inhaler was unsuitable for them. The expiratory valve is on the outside of the inhaler, and the inspiratory one in the inside at the top of the chloroform chamber. The latter is necessarily dependent and open when not in use, and is only closed during expiration; consequently at all other times the chloroform chamber is an open one, and there is nothing to prevent the vapour passing off. Mr. Rooff tried to remedy this when he was attaching his valves to the inhaler Dr. Murphy used, and in which the india-rubber valves were found worthless, by fixing a semicircular plate outside the inhaler, which was made to slide off or over the valve as required. Having to do this, as well as to withdraw a cork stopper each time the inhaler is used, renders its application unnecessarily complicated, and most probably one or the other, after a few times, might escape attention in the hurry with which the inhaler has to be applied. I was thus induced to contrive one which I believe is free from all objections.

On examining the form of Dr. Murphy's inhaler, I found that it increased its size without any proportionate advantage. Thus the mouth-piece is wider than need be, and, from being funnel-shaped, is unnecessarily deep. At the end of this is attached the chloroform chamber, which is fully a third less in width than the mouth-piece, and sufficient capacity is obtained in length. The depth, too, is considerably increased by about a fourth from valve cases above the chloroform chamber. I have diminished the width of the mouth-piece in my inhaler, and increased that of the chloroform chamber, so that the two correspond, which greatly simplifies the construction of the instrument, and reduces its length. This inhaler, with case and chloroform bottle, is no longer than Dr. Murphy's inhaler alone, whilst its width and depth are less. It will be seen also that the valves do not project. To obviate the defect of the inspiratory valve being open in the chloroform chamber, and allowing of the escape of the chloroform, the chloroform chamber is divided into two parts; one, the main part of it, is for the sponge; the other small portion is for the inspiratory valve, which is attached a little below the upper part of the inhaler on "a seating," and when not in use closes the chamber, and when in action the air is made to enter from the bottom instead of at the top, as in Dr. Murphy's inhaler. The expiratory valve rests on "its seating," which extends, too, to the sides of its chamber, which is situated between the mouth-piece and receptacle for the chloroform, and is always closed when not in action. The valves are twice as large as in Dr. Murphy's first inhaler, so as to allow of free ingress and egress of air. The chamber is charged with chloroform by merely drawing out a slide on the top of it. When required for use, instead of having to withdraw a cork stopper, a slide exists at the base of the mouth-piece, which is easily opened or closed as necessary.

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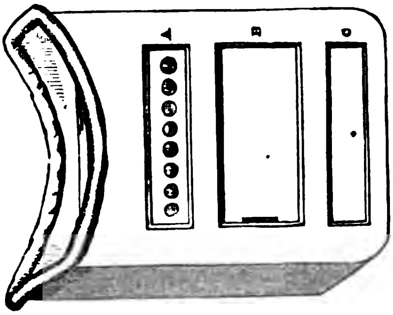
[*] Aids during Labour, p. 85.

[†] Chloroform in Childbirth, p. 81.

[‡] Op. cit. p. 88.



A, The expiratory valve, situated immediately beneath the black spots, which are openings for the exit of air.

B, The slide of chloroform chamber.

C, The part corresponding to the situation of the inspiratory valve. The air enters from the inferior surface of the inhaler through an opening covered with wire gauze, corresponding in size with that for the expiratory valve.

The inhaler is a little more than three inches long and two and a quarter broad, and not quite one and a quarter deep. A bottle for chloroform fits into the mouth-piece. The case, complete, measures four inches three quarters by two inches five-eighths, and one and a half deep.

The inhaler is made by Mr. Rooff, of Kentish-town.

Bayham-terrace, Camden-town, 1856.

ON THE FEVER AT THE CLERGY ORPHAN ASYLUM.

By William Budd, M.D.,

LECTURER ON THE PRACTICE OF PHYSIC AT THE BRISTOL MEDICAL SCHOOL.

The late outbreak of fever at the Clergy Orphan School, of which such a painfully interesting account has appeared, will probably prove to be no mystery, if the facts are looked at from the true point of view.

From the description of the symptoms, as well as from other circumstances to be gathered from the narrative, there can be little doubt that the disease which is spreading amongst these orphans is the specific fever whose single anatomical character was first shown by Louis to be an equally specific disease of the intestinal follicles—a fever variously known in this country under the names of *common continued typhoid gastric* fever, and so on, but of which *intestinal* fever would seem to be the fitter designation. Short as the summary is which your notice contains, it includes nearly all the diagnostic marks of this well-known affection. The detection of the characteristic ulcerations in the intestine seems to be all that is needed to set the seal to its identity. A great number of outbreaks of this fever, precisely similar in their leading incidents to that which had just happened at St. John's-wood, have already occurred in schools and other public establishments in this and other countries. Perhaps the most interesting case of the kind which has yet been recorded is that of the fever which committed such havoc in the military school of La Flèche, in France, in 1826. The scientific precision of the details give to this case a more than common value. As the chief amongst them lie in a small compass, it may not be amiss to reproduce them here.

The fever was already prevalent in the town before it broke out in the school. As at St. John's wood, it began in the school with a few scattered cases. In the course of the outbreak, four of the pupils died. Their bodies were examined with great care, and in all four the characteristic ulcerations of the intestine were found. As the disorder soon gave signs of spreading, the governor of the school decided on anticipating the usual vacation, and sending the pupils home. Before, however, this measure could be carried into effect, sixty of their number were seized with the malady. Twenty-nine others took away the seeds of the fever with them, and were laid up by it at their own homes. Of these twenty-nine, Dr. Renou ascertained that *as many as eight communicated the disorder to persons who were engaged in attendance upon them.*

This species of fever has two fundamental characteristics. The first is, that it is an essentially contagious disorder; the second, that by far the most virulent part of the specific poison by which the contagion takes effect is contained in the diarrhœal discharges which issue from the diseased and *exanthematous* bowel. This, it may be said, is mere assertion; but there are, probably, few truths in medicine which rest on a body of evidence at once so copious, so various, and so decisive, as that which might be cited in proof of this twofold proposition. So many and such striking proofs of both the facts here asserted have come before myself, that I have long looked upon them as being as sure as that itch is contagious and that small-pox may be inoculated. When these facts are kept steadily in view, the interpretation of such events as those which occurred at La Flèche becomes to the last degree simple.

The first case in the series may either be casual and imported, or may be due to the local rekindling, through atmospheric or other changes, of poison which had remained as the dormant legacy of some former similar attack. In either case, in the usual course of things, diarrhœa comes on in the infected subject; and the next thing that happens is that the discharges from the bowels, which are usually at once copious, numerous, and liquid, are thrown into the watercloset or privy. In this way the drains, or system of drains, belonging to the place become at once saturated with the specific poison in its most concentrated and virulent form. This once occurring, the poison may give the fever to the healthy inmates in one of three ways: either by percolating through the soil into the well which supplies the drinking water; by issuing through defects in the sewer into the air of the inhabited area; or, still more directly, by exhaling from the aperture of some ill-trapped watercloset or privy, which is at once the receptacle of the discharges from the sick and the daily resort of the healthy. Assuming the identity of the disease to be determined, it may safely be prophesied that the true key to the events which have lately occurred in this orphan asylum will be found in some one of these simple relations. I have myself seen very striking instances, on a large scale, of all three of these modes of communication. A very memorable one of the propagation of this species of fever by the bursting of a cesspool into a well, occurred in this place in 1848.

It is essential to a true view of the phenomena to understand that when the poison issues into the air (often, it may be, into a common day-room or dormitory), the atmosphere generated *is immeasurably more infectious than that which immediately surrounds the fever patients.* The sewer may be looked upon, in fact, *as a direct continuation of the diseased intestine.* With this important difference, however, that, instead of being a narrow tube, which, except when the bowels act, is hermetically sealed, it is a large chamber, whose expanded surface, when the construction is imperfect, is either slowly distilling the infection into the soil, or constantly exhaling it in large volumes into the surrounding air. As this species of fever, like all other contagious fevers, has what is called a period of incubation, it necessarily happens that when the first case is an important one, a considerable interval elapses before the development of the group of cases which may chance to spring from it. From a large number of facts bearing on the point which have fallen under my own observation, I have been led to the conclusion that this period ranges from ten to fourteen days. There is reason to believe, however, that its duration varies considerably, partly with the nature of the medium through which the specific poison finds admission to the living body, partly by reason of conditions it meets with there, and still more, as I have been led to think, in virtue of the *greater or less intensity of the state of metamorphosis* in which the poison itself may be at the moment of its reception. The simultaneous seizure of a large number of inmates in an establishment like this at the interval of a week or so after the occurrence of the first cases, so far therefore from negativing the idea of contagion, as the writer of your notice supposes, is precisely what we should expect to witness under that mode of propagation. It is the exact counterpart in fact, with the slight differences due to the different nature of the disorders, of what has been observed a hundred times before in schools, in the case of measles, scarlet-fever, and in former times of small-pox also.

I may add, in conclusion, that I do not offer these remarks with the view of prejudging the inquiry at St. John's-wood. My principal object in writing them is to avail myself of the opportunity they afford of earnestly recommending the general adoption of some very simple measures which I have long been in the practice of employing for checking the spread of this fever, and by whose means, *provided they are thoroughly and effectually carried out,* I believe the recurrence of such calamities may be entirely prevented. These measures are founded on the power of chemical agents to destroy the infectious properties of contagious poisons. If it be certain that the intestinal discharges in this fever are the principal means of propagating the disease, it is no less certain that by subjecting the discharges on their issue from the body to the action of powerful disinfectants, they may be entirely deprived of this property. An actual instance of the application of these preventives will illustrate the mode of their employment better than any general statements. In the month of June, 1853, I was consulted by the head of a large retail establishment in this city, in consequence of the occurrence of several cases of this fever amongst his hands. Three cases had already occurred, and a fourth patient was now lying ill of the fever, and in a most dangerous state. The idea of propagation by contagion was supposed to be out of the question, because each one of the four who had fallen sick was separated from the other inmates of the house the moment the first signs of disorder appeared. It was, however, a very significant fact that these four were all *women.* There had been severe diarrhœa in all cases, and on inquiry I found, as I had anticipated, that the diarrhœal discharges had been all thrown down the water closet appropriated to the exclusive use of the female part of the establishment. In the water-closet itself, at the time of my first visit, there were three vessels containing the three last discharges from the patient's bowels, which, in accordance with a too common practice, had been placed there without being subjected to any disinfecting measures, to await the inspection of the medical men. Some linen stained with these discharges, and which had just been removed from the sick bed, lay in the vestibule.

Under these circumstances the following measures were suggested:—

1st. That for the future all the discharges from the fever patient should be received on their issue from the body into vessels containing a concentrated solution of chloride of zinc.

2nd. That all tainted bed or body linen should, immediately on its removal, be placed in water strongly impregnated with the same agent.

3rd. That the water-closet should be flooded several times a day with it, and that some chloride of lime should also be placed there, to serve as a source of chlorine in the gaseous form.

And lastly, and by way of further precaution, that so long as the fever lasted, the water-closet should be used exclusively as a receptacle for the discharges from the sick.

These suggestions were carried out to the letter, and the result was that no other case of fever occurred amongst the remaining twelve or fourteen other young women who lived in the establishment.

I may add that since I have adopted this method of prevention, I have (as I have already stated elsewhere) only met with one instance, where it was used from the first, in which the disease has spread beyond the single person first attacked. Before I adopted it, it was not an uncommon thing for me to see several members of a family take the disorder one after another, even in airy and well-appointed houses.

It may, perhaps, be alleged that the measures here recommended are already in very general use. Happily, the case is one in which the natural instincts suggest what science prescribes, and in which measures adopted to prevent noisome smells accomplish a higher purpose. It is not the only case that might be cited in which the nose is wiser than the intellect it serves. But measures of this kind, if they are carried out at all, are only carried out in the houses of the rich, and even in them, as far as my observation goes, they are never executed with the completeness which an insight into the real exigencies of the case requires. Amongst the poor such refinements are never thought of, and when this fever breaks out in a poor family the discharges from the bowels are thrown, without preparation, either into the common privy, or, as I have seen a hundred times in rural districts, are cast upon the dungheap or into the open gutter. From this point, following the line of watershed, this pestilent stuff often makes its way to considerable distances, where, appearing now under the guise of an endemic miasm, which entirely masks its true origin, it may carry the seeds of fresh disease and death into many an unsuspecting household. If the practice were universal of depriving this stuff of its infectious properties, by the method here indicated, before it is let loose upon the world, I believe it is not too much to say that the lives of a large proportion of the many thousands who die annually of this fatal disease in the British Isles would be saved by the measure, and a corresponding amount of sickness prevented.

December 1856.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

JANUARY—FEBRUARY.

Dr. **Russell Reynolds** showed a preparation illustrative of

MALFORMATION OF THE HEART IN A CYANOTIC CHILD.

This specimen was removed from the body of a girl aged thirteen months, who had been cyanotic, and subject to convulsions from the age of seven months, but who is positively stated to have been perfectly healthy prior to that period. During life, the cyanosis was deeply marked, and auscultation of the cardiac region revealed the existence of systolic murmur, audible over the surface of that region generally, but having its maximum intensity at the base, and extending in the direction of the left costal cartilages. The heart presents the following anomalies:—The foramen ovale, between the auricles, is open. The aorta arises from the right ventricle. The left ventricle communicates with the right. The pulmonary artery is much reduced in size, and arises from the walls of the right ventricle, its communication with that ventricle being exceedingly small. Contrary to what usually exists when the aorta arises from the right ventricle, the ductus arteriosus is closed. The circumference of the aorta, $1\frac{3}{8}$ of an inch; of the pulmonary artery, $\frac{5}{8}$ of an inch; of the foramen between the ventricles, $\frac{7}{8}$ of an inch; of the foramen ovale, $\frac{6}{8}$ of an inch.

Dr. **Hare** showed a specimen from, and related a case of

INTESTINAL OBSTRUCTION, ASSOCIATED WITH CONSTRICTION, ULCERATION, AND PERFORATION OF THE ILEUM.

George M——, aged forty-two, had suffered from left oblique inguinal hernia, since nine years of age. He had worn a truss almost constantly, for when it was removed the hernia protruded; but he had always been able to return it with ease till ten weeks before his death, when having neglected to return it as soon as usual, he found himself unable to do so at all. Symptoms of strangulated hernia came on, and an operation was deemed inevitable; but at last, after repeated failures, the hernia was reduced by taxis, and the patient obtained much relief. Soon afterwards, however, decided symptoms of peritonitis supervened, but under treatment subsided, so that the patient was able to walk a mile or so, and superintend some building, though he still had, from time to time, abdominal pains of rather severe character. Two days before death, acute symptoms set in, with vomiting, great pain in the abdomen, complete obstruction of the bowels, &c.; he was ultimately sent to University College Hospital, but only five hours before his death. When admitted, the patient was much prostrated, and complained much of the abdomen, which was greatly distended, but the surface was marked by two or three transverse rugæ, and the lower part of the left side was somewhat flatter, more resisting, and less tympanitic than the rest of the abdomen. No trace of the hernia was discoverable. On post-mortem examination, the small intestines were found to form large coils transversely across the abdomen; the surface of the intestines was much covered with recent lymph; there were several ounces of turbid fluid, of doubtful fæcal odour, but of light yellowish colour, in the peritoneal cavity. At three feet nine inches from the ileo-cæcal valve, a diverticulum from the small intestine, one inch and three-quarters long, filled up the left inguinal canal, and was at all parts so closely adherent to it as to form a kind of lining membrane for it. Close to, and just above, this diverticulum, the cœcum was so constricted as to measure only seven-eighths of an inch in circumference; at this part, too, ulceration of the whole circumference of the mucous membrane (for about half an inch in width) had taken place, and at one spot of the ulceration a small perforation had resulted, through which yellowish, fæcal-like matter escaped. Within a couple of inches above the constricted part, the ileum was so dilated as to measure about four inches in circumference. The diverticulum was probably not congenital, but had been gradually formed at the expense of the walls of the intestine; hence arose the constriction of the bowel, and ultimately the ulceration and perforation.

Dr. Wilks exhibited a specimen of

SYPHILITIC DISEASE OF THE LIVER.

It appeared closely to correspond to such as have been described by some German pathologists, as resulting from inveterate syphilis. The subject of it was a man, aged thirty-nine, who lately died in Guy's Hospital under Mr. Hilton's care. He had suffered three years from necrosis of the bones of the head, due to the effects of syphilis and mercury, and at last died in an extreme state of cachexia, the immediate cause of death being pleuro-pneumonia. Upon the surface of the right lobe of the liver was an indentation like a cicatrix, and, upon cutting this through, the tissue beneath was seen to be indurated and contracted from the infiltration of a fibrous material into the parenchyma of the organ, and which at the lowest part took the form of distinct nodules. In the neighbourhood were a number of such nodules, each about the size of a pea, of a pearly whiteness, and of considerable hardness, emitting no juice on pressure, but being composed of a low organized albuminous material, containing a few nuclei and fatty granules. They were formed within Glisson's capsule, and everywhere were in contact with the portal vessels. The testes were also destroyed by a fibrous degeneration. It has been thought that this disease of the liver is a variety of cirrhosis; but instead of the new material appearing in a diffuse form, that it is deposited in a concrete form, or limited to isolated portions of the hepatic parenchyma. It has been long known that patients with syphilitic disease have suffered from derangements of the liver, and Mr. Hilton in particular has drawn attention to their frequency in this class of maladies, so that he predicted some disease of the liver in the present case. Dr. Wilks believed that there was some good reason for connecting the present affection with syphilis, although it required further corroboration, and he stated that in several cases of lardaceous disease occurring in syphilitic subjects, already published by him, there were fibrous cicatrices and knots on the liver, although only in one did it present the marked characters of the present specimen. He also mentioned, in illustration of the effects of syphilis on the internal organs, that lately having to examine two children who were still-born of syphilitic mothers, he found peritonitis in both; in one, the liver and diaphragm were closely adherent, and the capsule already thickened; in the other, pneumonia was also present, as in this case.

Dr. Wilks also presented a specimen of

COMPLETE DESTRUCTION OF THE PULMONARY VALVES FROM DISEASE.

A girl, aged eleven, lately died in Guy's Hospital, under the care of Dr. Owen Rees. She was said to have been ill from birth, and was with difficulty reared until the age of three years, when her health improved; she then remained tolerably well until a year before her death, when, after taking a severe cold, she was laid up with pains in her limbs, and chest symptoms. On admission the girl did not appear very ill; she had shortness of breath, and a loud systolic bruit was heard all over the cardiac region, and also a diastolic murmur over the sternum and towards the right side. There was no hæmoptysis, no dropsy, and no appearance of cyanosis. Purpuric spots appeared on the body during the last few days of life, but no other symptoms denoting the formidable disease affecting the pulmonary vessels which was seen after death. Upon post-mortem examination the heart was found as large as an adult's, owing to the increased size of the right ventricle. The pulmonary artery and its branches were completely filled by a firm, fibrinous clot, closely adherent to the walls, of a whitish colour, and evidently of some days' or weeks' formation. Upon raising this up, the lining membrane of the vessel, as far as its commencement, was excoriated and covered with firmly adherent lymph, and upon looking for the valves not a vestige of them was to be found. The foramen ovale was widely open. There were also recent vegetations on the aortic valve. It would appear that this child had endocarditis about the time of birth, a short time before or afterwards, and that a certain amount of destructive disease at the commencement of the pulmonary orifice, had then occurred: and that, a year before death, from a fresh rheumatic attack, their complete obliteration took place, and at the same time vegetations formed and coagula were deposited until the vessel became completely filled and life could no longer continue.

Mr. **Obré** described a case of

ABSCESS OF THE BRAIN, COMMUNICATING WITH THE TEMPORAL BONE.

A female, aged thirty-three, applied to the St. Marylebone Eye and Ear Infirmary on Aug. 13th, complaining of long-standing intense pain in the left temporal region, accompanied with occasional confusion of intellect and deafness of the left ear, from which there had been of late a purulent discharge. The external passage was too painful and swollen to permit a careful examination. The brain was supposed to be suffering disease in a severe form, from the intensity of the pain, although there was an entire absence of palsy or paralysis or other cerebral symptoms. On the fifth day from her application for treatment, she suddenly died in a convulsion. The post-mortem examination showed general congestion of the vessels in the left cerebrum, the middle portion of which was occupied by an abscess apparently of long standing, and containing about an ounce and a half of brown-greenish-coloured pus. The dura mater was firmly attached to the temporal bone; a piece the size of a shilling of this membrane was destroyed by ulceration, which permitted the external wall of the abscess, which was unchanged in structure or colour, to adhere to the bone. The external meatus was filled with purulent discharge, and its lining membrane ulcerated at its upper surface, through which the pus had passed, and separated the bony passage from its lining. The petrous portion of the bone, where the brain was attached, was slightly discoloured. The internal ear was left for future examination. Mr. Obré expressed an opinion that the disease in this case originatod in the brain, and not in the bone, which was generally found to be the case.

Mr. **Haynes Walton** exhibited

A TUMOUR FROM THE FRONT OF THE FOREARM.

A young female came under Mr. Walton's care at St. Mary's Hospital, with a tumour in the centre of the forearm, as large as a walnut. It was of stony hardness, apparently just beneath the skin, and so far movable as to justify the suspicion of being unconnected with the bone. Four or five years ago the growth was first observed, and it had gradually increased without pain till within a few months, when, the movements of the muscles being also interfered with, she sought relief. Mr. Walton suspected the existence of enchondroma. An operation having been decided on, he made an incision over the tumour, dividing the skin and fascia. A distinct cellular sheath was at once recognised and opened. With the handle of the scalpel, the slight adhesions were readily overcome, and the entire mass with its proper envelope easily removed. Half only of it could be cut through with the knife, the rest requiring the saw for division. To the naked eye it had the resemblance of enchondroma; microscopically examined, it did not exhibit any cartilage cells, neither was there a fibrous character, nor scarcely what could be called fibroid. The denser portion consisted of bony granules.

Dr. J. W. **Ogle** exhibited a

FIBRO-CELLULAR TUMOUR CONNECTED WITH THE DURA MATER.

The growth was equal to a small walnut, and was very vascular and firm, and evidently situated within the laminæ of this membrane. It was situated at the vertex to the right of the superior longitudinal sinus, which it rather interfered with, and greatly indented the surface of the brain. It showed microscopically a quantity of fibrous tissue and vessels, and vast numbers of large, many-nucleated cells, numbers of which were "nested," as it were, and enclosed in other cells, flattened and epithelial in appearance. The specimen was removed from the body of a man aged seventy, who died of pneumonia. No signs of its presence had ever been manifested during life.

Dr. **Ogle** also showed a

FIBRINOUS DEPOSIT IN THE WALLS OF THE HEART.

The deposit was situated chiefly towards the base of the heart, and especially occupied the septum of the ventricles. On the right side of the heart, it was seen in distinct masses, appearing immediately under the endocardium covering the septum, and in the substance of the flaps of the tricuspid valve, as well as one or two of the "fleshy columns;" but in the midst of the muscular tissue generally it was not in masses, but as it were infiltrated, rendering the tissue hard and tough. At one place, at the base of the septum, along with the hardening, there was a great thinning and a depression of about the size of a shilling, evidently showing a tendency to the formation of an aneurismal pouch. There was also much disease of the aortic valve and of the root of the aorta. The specimen was from a woman about thirty-five years of age, who had been ill for several months with evident disease of the heart, and whose pulse was peculiar, inasmuch as regularly every third beat faltered, and was so weak as almost to be imperceptible. She had no general anasarca, but died suddenly with serous effusion into the pleural cavities.

Dr. **Harley** exhibited a specimen of

HEPATO-INTESTINAL CALCULUS,

which was taken by Mr. Jakins, one of the pupils of University College, from a cul-de-sac in the duodenum of a dissecting-room subject. The history of the case is unknown, further than that the man died in St. Pancras Workhouse, at the age of eighty-seven, of natural decay. The specimen is very interesting, however, as it illustrates very strikingly some points in the pathology of these cases. The stone was made up of three portions, articulated together, and measured three inches in length, three inches and three-quarters in circumference, and weighed 450 grains. On breaking it, the texture was seen to be crystalline towards the exterior, and amorphous in the interior. It smelt strongly of bile. As it had evidently remained a long time in the intestinal canal, Dr. Harley analyzed it, to see if it retained the ordinary composition of a biliary calculus, and found in 100 parts—

Cholesterine	90·346
Mucus	2·218
Colouring matter and resin	4·242
Inorganic salts	0·661

It is thus seen to contain somewhat more than the average amount of cholesterine, but is evidently a biliary calculus. The question comes to be, how came it to be lodged in the cul-de-sac, which was equi-distant from the pylorus and entrance of the gall-duct into the intestine? From there being old-standing adhesions between the duodenum, neighbouring tissues, and gall-bladder, Dr. Harley supposes it to have passed by ulceration from the latter into the intestinal canal. Had it become dislodged from its position in the cul-de-sac, it would most probably have caused the death of the patient, as its diameter was too great to permit of its passing along the small intestine. The specimen showed very clearly that the evils arising from hepato-intestinal calculi depend as much upon their position as upon their actual size.

Mr. Sidney Jones presented a specimen of a

LARGE POLYPUS OF THE UTERUS, SLOUGHING SPONTANEOUSLY, AND WEIGHING UPWARDS OF TWO POUNDS.

A woman, aged fifty-eight, married twenty years, had had four living children and five miscarriages. Fourteen years of the twenty she had been the subject of a tumour presenting in the vagina and gradually extending to the os externum. Two medical practitioners pronounced it to be a prolapsed uterus, and advised a pessary. On the evening of the 15th November it sloughed away; the hæmorrhage at the time was profuse, but soon arrested. The points of interest were—1, the size of the tumour; 2, the long period of its existence; 3, its spontaneous separation; 4, the great resemblance that the presenting extremity had to an os uteri. It had a transverse indentation that might readily, unless carefully examined, be taken for an os. It presented the ordinary structure of such tumours.

Mr. Hutchinson, on behalf of Dr. Wilkes and himself, gave a report of their examination of Dr. Gibb's specimen of

CANCEROUS SUPRA-RENAL CAPSULE.

The mass submitted to them for examination was about the size of an egg, and consisted throughout of very vascular medullary cancer, in various stages of growth and degeneration. Under the microscope, cells of most characteristic features were abundant. No portion of healthy supra-renal gland could be found in the mass. The tuberous mass in the liver was also of similar character.

Dr. Gibb had, since showing the specimen, himself examined the lumbar glands of the same case, and had found them to be cancerous. He adverted to the fact that one of the supra-renal bodies was healthy, and added that patches of brownish discoloration of the skin had been observed on the body.

Dr. Risdon Bennett showed a specimen of

LOCAL FIBROID DEGENERATION OF THE SUBSTANCE OF THE HEART,

which had been removed from the body of a man who had died suddenly during the course of phthisis. The organ presented a remarkable similarity to one shown at the last session by Dr. Bence Jones, and one still earlier, he believed the first recorded example of it, by himself (Dr. Bennett). There were large portions of the muscular substance converted into a pale greyish-white fibroid structure. Over these the endo and pericardial membranes were opaque, and resembling the state so well known as "white patches." From these, however, they differed, in that the membrane was perfectly smooth and glistening, the appearance being that of the changed muscular tissue seen through. Whether the change was deemed to be one consequent on inflammation or not might be thought doubtful, but the circumstance that extensive pericardial adhesions existed was somewhat in favour of such a view.

Mr. Busk presented a specimen of

ENCHONDROMATOUS GROWTH FROM THE FEMUR,

which had been removed by amputation of the thigh of a gentleman, aged twenty-seven. At the age of thirteen he had been thrown down in a scuffle, and a year or two after a painless tumour was observed to be growing in connexion with the outer condyle of the femur. It grew slowly, and passing behind the bone developed on its inner aspect also. Of later years its increase had been more rapid, and its size had become inconvenient. The preparation, which was handed round the meeting, showed a white cartilaginous tumour, at least the size of an adult head, but flattened, and on its surface extremely irregular, with small nodosities. In structure, the growth on section showed differences, the greater part being ossifying enchondroma, but a portion which had recently grown quickly being of cystic character. In the former were all varieties of cartilage cells, and in the latter the cells were elongated and fusiform. Mr. Busk did not think that any part was cancerous, but was more doubtful of the cystic parts. The cartilaginous parts showed, as such usually do at a little distance from the surface, parts in which the structure was soft and almost pulpy. These parts, the exhibitor observed, had usually been deemed to be spots in which degeneration and softening of the cartilage was in progress; but there were certain circumstances which had led him to suspect that a contrary explanation ought to be offered, and that they were, in reality, parts in which development and consolidation were incomplete. His reason for this view was that, on careful microscopic examination, the cells seemed to advance in perfectness, in respect to nuclei, &c.,

from the softest to the harder parts; and that, in the former, there were no evidences of their being fatty or degenerate.

INJURY TO THE SKULL.

Mr. **Partridge** related the case of a boy, eleven years of age, who had lately been admitted to King's College Hospital, with a severe scalp wound consequent upon a fall. In playing, the boy fell, and his head came in contact with the sharp edge of a box, by which a wound was inflicted, extending from the middle of the forehead to the left temple. The wound seemed clean, and likely to heal. The house-surgeon accordingly put some stitches into it. The next day there was a little œdema of the scalp, and the stitches were removed. The boy recovered apparently, and did well for fourteen days. He then appeared a little drowsy; he continued so for several days, and on the 13th died, being insensible only for the last two or three days. The pupil was not dilated. He passed his fæces involuntarily. He did not use his right arm, and there was no sensation in it; he had the use of the left arm, and suffered pain in it. The bone under the scalp wound was found contused and bare of periosteum. There was a mottled appearance of the frontal bone; corresponding to this, pus was found between the dura mater and the bone; there was pus in the cavity of the arachnoid. The dura mater under the seat of the injury had a sloughy appearance.

MEDICAL SOCIETY OF LONDON.

Dr. Chowne, President.

Mr. **Hancock** brought a boy to the Society, whose hand had some five weeks previously been drawn in between two pressing rollers of a steam-engine. The space between the rollers through which the hand was drawn was only one-sixth of an inch. When admitted into Charing-cross Hospital the whole of the phalanges of the fore-fingers, and the digital halves of the metacarpal bones, were found completely crushed and pulverized, the fingers flattened and widened, whilst the index-finger had burst from the pressure. Mr. Hancock, however, as the extent of wound was comparatively small, determined upon endeavouring to save the hand, and he now submitted the results to the Society, drawing the attention of the fellows to the fact that not only were the individual bones restored to their natural shape, but the joints were recovered and the boy was rapidly obtaining the perfect use of the hand and fingers, an exceedingly good example of conservative surgery.

PATENT FORAMEN OVALE; CYANOSIS.

Dr. B. W. **Richardson** exhibited the heart of a little girl, in which two large openings, sufficient each to admit the little finger, existed in the septum auriculorum, the foramen ovale seeming to have been divided into two parts by a muscular band. The child was of a blue colour from birth, and had had frequent attacks of late of spitting blood. The lungs were filled with miliary tubercle, to which the immediate cause of death was due. The patient being five years old, and her parents being intelligent people, he was enabled to obtain many interesting facts regarding her condition from birth. The heart was slightly larger than usual, and during life had been heard over a wider surface than usual. But both sounds were always distinct and natural. There was no abnormal sound. The structure of the heart had undergone no degenerative change; but the walls of the left ventricle were thinner than those of the right. This was curious, as showing the physiological effects of so free a communication between the two sides of the heart. During life, blood often escaped from the nose of the child; this blood was always deeply dark and fluid. After death, the whole of the circulatory system, venous and arterial, was filled with dark uncoagulated tarry-looking blood, which evolved ammonia, as shown by the hydrochloric acid test, and the corpuscles of which were much broken and disintegrated. A little of this blood, exposed to the air at the temperature of 60° Fahr., coagulated feebly in twenty-four hours. The body of the child during life was always blue, except on the hottest days of summer, when it would for a brief period become fresh coloured. The ends of the fingers and toes were most deeply tinged, and were expanded into a peculiar rounded shape, resembling the dark sloe fruit. The blueness of body continued up to death, and for forty-eight hours afterwards, passing away then entirely in the course of the third night. The child had never been known to perspire; she did not herself complain of cold, though to others she was always cold. She took exercise with delight, was never wanting in appetite, and was unusually quick and shrewd mentally. Her mind remained clear to the last. She knew she was dying, took a loving farewell of her parents, and died undisturbedly. Dr. Mayne, in the *Dublin Journal of Medical Science* for 1848, had ably described a case in which a woman died after suffering a long time from peculiar symptoms. After death the foramen ovale was found open, but the inference was clear that in this case the course of the blood had been back from the left auricle into the right. The two cases thus differed physiologically: in his (Dr. Richardson's) case, the blood was never properly arterialized; in Dr. Mayne's, it was over-arterialized, passing in part twice through the lungs. In Dr. Mayne's case, nothing was dreaded so much by the patient as exercise, she had no blueness of skin, she was constantly sweating, she had no desire for nourishment, and she seemed lost in despondency, and would relate nothing of her previous history, seeming as incapable of mental as of bodily exertion. In all these points the two cases were the exact opposites of each other. In both the nutrition of the muscles was carried on fairly. In Dr. Mayne's case, the left side of the heart was contracted and small; in Dr. Richardson's case it was dilated. The importance of this comparison, however, lay in the symptoms special to each case.

PATHOLOGICAL PRESERVATION JAR.

Dr. RICHARDSON exhibited a jar for the temporary preservation of pathological specimens in the fresh state. The plan is exceedingly simple and effective. The vessel or case, which may be made of metal, earthenware, or glass, consists of an outer cylinder, in which at the bottom there stands up a small glass tube for holding a piece of phosphorus. A little water also surrounds the tube to the depth of an inch or two. Covering the water and phosphorus is a perforated stage, on which the specimen to be preserved is placed. The last part consists of an inner cylinder, closed at the top and open at the bottom. This fits into the outer cylinder, the lower or open mouth dropping into the water at the bottom. When once fitted up, this jar will answer for a long time without trouble. The preparation has only to be placed on the stage and the inner cylinder put over it; it will thus be preserved. The principle of preservation is simply owing to the fact that the animal structure is placed in a closed cylinder containing a piece of phosphorus. The phosphorus extracts the oxygen; the phosphoric acid formed is absorbed by the water, and nitrogen only remains in contact with the specimen, the decomposition of which is thus necessarily stopped. The specimens should always be put into the jar in their fresh state.

Dr. THUDICHUM read a paper on

SOME OF THE PATHOLOGICAL INDICATIONS OF THE URINE.

The author said that the subject which he ventured to bring before the Society, though of a practical nature, and closely affecting every case of illness that occurred, yet appeared to many more an ornament than an essential part of medical science, and had been left to operative or analytical chemistry. Clinical medicine, though it recognised as practical features the specific gravity of the urine, the occurrence of deposits and abnormal substances, did, in most cases, not ascertain the bearings in disease of the most important normal ingredients of the urine. It had, in fact, been impossible to ascertain them before the invention of certain analytical methods—the volumetrical method for urea of Professor Liebig, the method of Professor Vogel for determining the amount of colouring matter discharged in the urine, and above all, before the general introduction of certain principles of observation at the bedside, which, by connecting quantities with time, created a new basis for pathological research. The author's wish was now to bear witness to the practical usefulness and general applicability of these methods and principles. The ease and simplicity of the analysis of urea was connected with so little expense in time, that one might reasonably expect that no practitioner would pronounce upon the quality of any urine without having, by that method, accurately ascertained the amount of urea it contained. The total quantity of urine discharged by healthy adult persons in twenty-four hours the author estimated to vary between 324 and 432 fluid drachms. The variation, or a certain mode of variation, formed an essential symptom of all diseases. Thus the quantity of the urine was diminished in all acute febrile diseases, and the fall and rise or low state of the quantity of urine was pathognomonic of an increase, decrease, or continuance of the intensity of the disorder. The author continued by stating that the amount of the solids discharged by the urine in twenty-four hours had hitherto been under estimated; for the daily average given by Dr. G. Bird was 650 grains, whereas, by the most accurate observations made with better methods, the mean amount of solids was found to vary between 849 and 1019 grains. Now, in disease generally the amount of solids sank from the daily 850 or 1000 grains to 650 or 550 grains, and then was formed mostly at the expense of the body, if little or no food was being taken. The author then considered in detail the pathological indications of the solids in different diseases; explained, by means of a diagram and a scale of colours, the method of Professor Vogel for determining the amount of colouring matter or urohæmatine discharged by the urine, and the pathological indications thereof; and proceeded to consider the—

Physiological quantity and pathological indications of urea.—Numerous arguments had shown that a healthy man, who lives well, discharges on an average from 463·32 grains to 670·76 grains of urea in twenty-four hours, which, calculated upon one hour, gave 19·3 grains and 25·74 grains respectively. For practical purposes, these figures were valuable, even though subject to certain variations. As urea was the principal product of the metamorphosis in the body of nitrogenized food, the quantity of urea must stand in a direct relation to the quantity of food taken, or, if little or no food be taken, to the amount of nitrogenized component parts of the body disintegrated in the place of food. In this sense must be taken the expression that urea is the measure of dissimilation, if he might be allowed to use this term as the counterpart of assimilation. "Der Harnstoff ist das Maass des Stoffwechsels," says Bischoff; and this was so nearly true, that, with a slight modification of the sentence, we might say, urea is the measure of the most important part of the change of matter in the system. The intensity of the change was expressed by the amount of urea in the urine. More urea was produced during waking than during sleep, more during bodily and mental exertion than during an equal period of inactivity. A large amount of nitrogenized food taken into the stomach would increase the amount of urea above the average; a small amount of vegetable food would make it sink below the ordinary medium. An excess of urea was common in the stadium increments up to and over the acme of all acute febrile diseases, such as typhus, pneumonia, pyæmia, and others;

and the total quantity of urea discharged in twenty-four hours might amount to 772 grains, 926, or even 1235 grains, being double the amount of that discharged during health. This increase was the more an important feature of disease, as the ingestion of nitrogenized matter fell to a minimum at the same time; in other words, because these patients had mostly got no appetite, and if they had, were caused to restrain it by the dietary rules of their medical attendant. As soon, however, as the fever had abated, the amount of urea would sink, and that the lower below the normal quantity the less food the patients were able to take from the loss of appetite continuing, or from the inadequacy of the organs of digestion to perform their task; but as the patients recovered appetite and strength, the amount of urea would rise to its usual height. The same process was observed during the exacerbations of chronic disease, which in fact constituted an acute episode in the long train of symptoms. So an exacerbation of phthisis might be accompanied by a urine similar to that of an attack of pneumonia by containing an excess of urea. But in diseases which were of a chronic nature, and accompanied by impaired nutrition, the amount of urea sank below the average. The lowest amount of urea which the author had ever observed to be discharged during twenty-four hours was 75 grains in 200 fluid drachms of pale, faintly alkaline urine. This was from a lady suffering from an ovarian tumour, for which she had been salivated several years ago. The growth of the tumour had been arrested since that time, but an anæmiated condition of the body had established itself. So low an amount of urea as 75 or 90 grains in twenty-four hours, generally, only occurred towards the fatal end of the disease, when not only was the production of urea very limited, but the excretory activity of the kidneys began to get languid also. The diminution of the quantity of urea might be due to the failing of the excretory activity of the kidneys only, though at the same time an excess might be produced in the system. The excess was thus retained in the body, and would cause uræmia. In dropsy not connected with disease of the kidney, urea was also retained; but here diuretics might be administered. The amount of urea would here indicate the amount of depuration effected, just as in retention of urea the smaller amount discharged would allow us to calculate, taking the whole case into consideration, the amount produced, and by subtraction the amount retained in the blood. In conclusion, the author performed the quantitative analysis for urea by the volumetrical method of Professor Liebig.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Mr. Cæsar Hawkins, President.

Mr. Lee read a paper on

A CASE OF PAINFUL SWELLING OF BOTH LEGS, RESEMBLING PHLEGMASIA DOLENS, WITH EXTENSIVE OBSTRUCTION OF BOTH FEMORAL VEINS, IN A PHTHISICAL PATIENT.

This woman was seized, while a patient in the Brompton Hospital, with pain, tenderness, and swelling in the upper part of both thighs; the symptoms subsequently extended down the extremities, the legs and feet becoming œdematous. The right limb was the first affected. There were no acute inflammatory symptoms. The affection continued until her death, which occurred about seven weeks after the first appearance of these symptoms. On examination after death, the lungs were found infiltrated with tubercles. The left iliac and femoral veins were completely plugged.

The right femoral vein was found to be occupied for eight or nine inches by a continuous false membrane, and obstructed, more or less perfectly, at different parts, by fibrinous deposit. The false membrane was nowhere so adherent to the lining membrane as not to be easily separable from it; and there were portions of the latter over which the false membrane passed which were in no way altered from their natural character. The author proceeded to argue that such a case could not be regarded as having a local origin, and consequently a starting-point from which inflammation might extend, as is stated to be necessary in phlegmasia dolens, and which affection his case accurately simulated in all respects but the absence of any uterine affection; and also to contend that phlebitis may arise independently of any extension of inflammation, and in such instances can only have for its cause the stagnation of the vitiated blood in the vessels. The author quoted a case recorded by Dr. M'Clintock in the *Dublin Quarterly Journal* for August last, in which inflammation of the large veins of the right side of the neck took place in a woman who had a puerperal affection; and detailed several experiments on dogs, instituted for the purpose of proving his arguments.

Dr. Theophilus Thompson bore testimony to the accuracy of the accounts given by Mr. Lee of the case described by him, excepting that the patient had been the subject of phthisical symptoms six years, and not eleven, prior to death. The obstruction of the veins had no relation to the amount of disease of the lungs. In the case in question, the amount of tubercular deposit was not great; and there were no cavities of considerable size. There was ulceration of the mucous membrane of the intestines, and also (as in two other cases which he recollected of a somewhat similar nature) some tenseness and tenderness of the abdomen—symptoms almost leading one to suspect inflammation of the peritoneum. In a case of a lady, thirty-five years old, one of the most striking symptoms was a marked murmur in the jugular veins—a symptom which he believed to be usually associated with a diminished proportion of fibrin in the blood. None of the cases he had seen were associated with any very decided marks of inflammatory action, and all of them appeared to lead to the conclusion to which Mr. Lee had arrived, that the blood, owing to some peculiarity, more readily absorbed certain morbid elements, and was less able to resist the contaminating influences.

Dr. Cursham related the case of a phthisical subject, between thirty and forty years of age, who suffered from œdema of the left leg; and after death there was found an obstruction in the femoral vein, as far as the popliteal. The lungs were extensively diseased on both sides, one lung being completely full of tubercles. The woman had borne children. There was considerable ulceration of the intestines; but no disease of the uterus. He had seen a similar case two years ago—that of a little boy, in whom, after death, there was found an obstruction in the lower part of the vena cava, and in both femoral down to the popliteal veins. There was ulceration of the intestines, but no disease in the pelvic or abdominal viscera.

The President inquired if there was suppuration going on, or whether there was anything in Mr. Lee's case to take it out of the ordinary category of abscesses producing secondary deposits?

Dr. Barclay said he had not seen many cases of idiopathic phlebitis, but he had notes of one or two, in which no suppuration was discernible, cases of chlorotic females, in whom there was some derangement of the uterine function.

Dr. Peacock had seen cases of obliteration of the renal and portal veins without suppuration, and he thought these were more unexceptionable instances of idiopathic phlebitis (if such a disease existed) than those cases in which suppuration was going on in other parts of the system.

Mr. Lee believed that wherever the blood would stagnate, from whatever cause, phlebitis would be produced. The cases that had been mentioned appeared to confirm the position that inflammation of the veins was not propagated by continuity of surface, but that the disease was carried forward by the blood. The same remark might apply to the arteries: as long as there was a perfect lining membrane there could be no effusion of lymph; but when inflammation was excited in the artery by deposit between its coats, or the coagulation of blood upon the surface, there might be effusion into the arterial canals.

Mr. Curling gave an account of a

LARGE MYELOID TUMOUR OF THE THUMB.

M. S——, a married woman, aged thirty-two, was admitted into the London Hospital, July 8th, 1856. About twenty years ago, she first noticed an enlargement of the distal end of the metacarpal bone of the right thumb, which gradually increased, without pain, until it attained a great size. About six months since, it became painful, and ulcerated in two places, giving exit to a very fœtid discharge. On her admission, the tumour was found to be situated between the thumb and first and second fingers, was irregularly spherical, hollow, and measured six inches in length and five in depth. It was hard and nodulated, consisting, apparently, of a hollow, osseous case. The skin covering it was tense, red, and polished. The tumour implicated the metacarpal bones of the thumb, fore and middle fingers. At the back of the tumour were two rounded openings, having smooth, bevelled margins, each about the size of a half-crown piece, and communicating with the large cavity in the interior of the tumour, which was lined in some parts by a smooth, laminated membrane, but chiefly by numerous granulations and small excrescences, thickly studded, giving a warty or cauliflower appearance to the part. An abundant fœtid discharge constantly proceeded from the cavity. The woman suffered so much, that although weak and only recently confined, the tumour was removed immediately after her admission. She perfectly recovered. A minute microscopical description of the tumour made by Dr. Andrew Clark was given in his paper, and the author called attention to the following characteristics of the case:—the very slow growth of the tumour; its large outgrowth of bone, and hollowness, the latter part being probably due to the degeneration and softening of the solid myeloid elements, and their escape by the ulcerated openings; the combination of an osteoid growth with enchondroma, myeloid disease, and epithelial cancer; the extension of myeloid disease to neighbouring bones by contiguity or encroachment, a circumstance in the history of the disease which, the author believed, had not hitherto been remarked.

Mr. Prescott Hewett had heard an opinion expressed that the tumour was not myeloid, but enchondromatous, and suggested that the preparation should be submitted to referees for their opinion.

Mr. Curling, while offering no objection to the course suggested, said that Dr. Andrew Clark and Mr. Henry Gray had pronounced the tumour to be of a myeloid character.

Mr. Solly mentioned a case in which

A LARGE CYST WAS SUCCESSFULLY REMOVED FROM THE UPPER PART OF THE NECK OF A YOUNG WOMAN,

aged twenty-seven, who was considered at birth to be the subject of spina bifida. The patient, a fair, delicate-looking young woman, consulted the author in August last with the object of having a tumour removed. The tumour was hard and unyielding, about the size of a goose's egg, flattened anteriorly; it hung by a broad thick pedicle to the upper part of the neck, a little below the occiput. She suffered no pain, but it was inconvenient from its weight and position. At birth, the tumour was about the size of her head, measuring ten inches and a half transversely at its connexion with the neck, and fourteen inches longitudinally; the lower part was of a dark colour, the skin being very thin, and fluid frequently oozed from that part. It increased for the first three years, but decreased from her third to her sixth year. Until two years of age she was very weak, and her left arm and leg were often much swollen; at this time any movement of the body produced pain. From her second year her health improved, and at four and a half she walked alone. She passed through all the diseases incidental to childhood well up to twelve years of age; at that period she had a fit, preceded by most violent pain in the head, for which she was bled from the arm, and recovered perfectly; from that time to the present she has enjoyed uninterrupted health. The tumour was seen in early life by several of the most eminent surgeons in town, but nothing was done. Finding that by pressure he could detect no cavity within the tumour; that manipulation gave no pain or inconvenience to the nervous system; having no doubt about the solidity of the pedicle; being able distinctly to feel the arches of the cervical vertebræ underneath it, and being consequently assured that no canal of communication now existed between the tumour and any other part, whatever might have originally been its nature and connexion, Mr. Solly resolved to remove it. The operation was performed on the 25th of August, and the patient is now perfectly well. The hæmorrhage was very free, requiring ligature of six large vessels and other means for restraining it. The wound healed very slowly. There was severe pain in the head at frequent intervals after the operation, but the author considered it hysterical, and it yielded to the use of aconite. The section of the tumour exposed a large cavity in the interior; a saw was required to divide it, in consequence of the walls containing firm calcareous plates. The cyst, which was about equal to two-thirds of the size of the tumour, was lined by a smooth membrane, and contained a viscid yellowish fluid not unlike white of egg; it was completely closed, but the line of junction could be clearly traced by a whitish-yellow line of ligamentous tissue running through the pedicle, which exhibited under the microscope all the characters of the yellow elastic tissue. The firm walls of the tumour were found to be composed of dense fibrous tissue, with calcareous granules interspersed throughout it; these latter consisted of carbonate and phosphate of lime not shaped into bone tissue. The author considered, upon a review of the case subsequently to the operation and the drawing up of his paper, that the tumour in all probability originally took its origin from the cranium, and not from the spinal canal.

The **President** asked whether Mr. Solly had carefully examined the skull, and found no deficiency?

Mr. **Solly** replied that he had, and that no deficiency was discoverable. The patient was now quite recovered, and free from any unpleasant symptoms.

Mr. **Prescott Hewett**, who had examined the case, said that when this child was born the occipital bone was lying on the tumour, which afterwards gradually dropped down. He knew of no case of spina bifida where there was so large a tumour about the cervical region. Though it was originally stated, on high authority, that the tumour was spinal, it might not have been meant that it actually came out of the spine; as he had seen, in a museum, a preparation of a reported case of spina bifida, the catalogue stating that the tumour came out of the occipital bone. There was probably, at that period, no accurate notion as to the origin of the tumours, and any tumour occurring about the occipital region might have been referred to spina bifida. In this case the long and slender pedicle came out between the occipital protuberance and the foramen magnum; and the tumour dropping down behind the spinous processes and covering them, the case might, not unnaturally, have been mistaken for spina bifida. In Paris, in 1837, a child having a tumour of a similar character was taken to several hospitals, and the case was pronounced by the first surgeons to be one of spina bifida, which ought not to be touched. A gentleman, however, performed an operation, and the child died; but the tumour was found to be connected with the occipital region.

Mr. **Chas. Hawkins** referred to a tumour in the collection of the Pathological Society, taken from a gentleman who had had it from the period of birth, coming out from the sacrum. The tumour decreased in size at the period of manhood, but the gentleman fell upon it, and death resulted. When first seen, it was supposed to be of spinal origin, but in the anterior portion there were found several pieces of bone, resembling the bones of a fœtus, and the supposition was that the tumour was a portion of a twin attached to the patient in the womb, and remaining there during life.

Mr. **Solly** thought the cases were not similar. In the case of imperfectly developed fœtuses, some portions of bone always remained, but in the case he had related there was only a calcareous deposit.

EPIDEMIOLOGICAL SOCIETY.

Dr. Babington, President.

Dr. **McWilliam** read a paper, by Dr. **Smart**, of H. M. S. *Diamond*, and late in charge of the Naval Brigade Hospital, Balaclava,

ON THE CLIMATE OF THE CRIMEA, AND ITS EFFECTS ON HEALTH, AS OBSERVED DURING THE FIRST YEAR OF THE OCCUPATION BY THE ALLIED FORCES.

Dr. Smart introduced the subject of his paper by a few very appropriate observations on the early as well as the modern history of the Crimea. He stated that in the earliest passages of European history, "Cimmeria," now the Crimea, was fabled to be a land involved in perpetual mists and darkness, its inhabitants addicted to the most barbarous practices, and so inhospitable that they sacrificed all strangers to a relentless female deity. At length some Ionian adventurers, undaunted by these fables, or by the general belief of the unnavigable nature of the intervening sea, pushed boldly across, and reached a sunny shore, with far-receding fertile plains. Here they founded the city of Panticapæum, that exists to this day under the name of Kertch, which, owing to the excellence of its commercial situation, arose from being the humble tributary of a barbarous people to the dignity of the seat of a kingdom, and has since been, in succession, a dependency of the Pontine, Roman, Byzantine, Ottoman, and Russian empires. From that date (B.C. 650 years) commerce began to carry civilization on her wings to the remoter parts of Scythia, and to return laden with the native productions of those vast plains and interminable forests. The importance of this commerce increased with the growth of the Byzantine empire; but when the eastern mistress of the world became the metropolis of the Ottoman empire, Cimmerian darkness again enshrouded these favoured regions, and thus the ancient fables concerning them have been almost equalled in modern days. Before the massacre of Sinope had stained the waters of the Euxine with blood, our fleet lay in the Thracian Bosphorus, hesitating to enter a sea of which the pilotage was unknown, presuming it to be studded with undiscovered shoals, and obscured in fogs and clouds pregnant with storms. Two years have sufficed to dispel these delusions, and western Europe remains no longer in ignorance of these, amongst the fairest regions of the earth—the borders of that great basin into which the largest rivers of Europe pour their inexhaustible floods. The labours and triumphs of war have conduced, in this instance, to the extension of the arts of peace. Our pilots now navigate fearlessly the furthest recesses of this sea, knowing that its broad bosom is free from hidden dangers. Our merchants have become more fully acquainted with the resources of the fertile provinces extending from its shores, which, when fully developed, will render it an almost unequalled emporium for the supply of less productive regions, opening at the same time a wide field for the spread of our commerce and manufactures. This general good has been earned at the cost of legions of which Britain was justly proud, whose sufferings have been wrongly attributed, in great measure, to the nature of the climate, in which they were called to undergo military labours, with numbers inadequate to their task. Enfeebled by epidemic disease, they were landed in the Crimea when winter was close at hand, to encounter a skilful and unwearied enemy; and after conquering in the field, to restrain within his fortifications this foe, possessing unlimited resources and the advantage of winter quarters, while they themselves lay encamped in the open field suffering the worst evils of poverty. Calamities beyond calculation naturally followed, intrinsically of such a nature that they were somewhat increased by the rigour of the climate. To describe the natural features, and to account for some of the more obvious phenomena of the climate and seasons, as observed throughout the first year of the occupation of the allies, forms the main object of Dr. Smart's communication. The Crimea (observes Dr. Smart) being almost surrounded by water, and connected by means of a narrow short isthmus with a vast extent of flat country, possesses, from its conformation and contiguity, a climate partaking of both those orders of characteristics that are contradistinguished by the terms continental and insular. These opposite characters do not, however, impress their traits continuously, so as to mark each its own seasons of the year; but by their frequent alternations serve rather to stamp the climate as an irregular and inconsistent one, from which it may be anticipated the advent and course of the seasons will be found to vary much in a series of succeeding years.

In describing briefly the leading features of the seasons throughout the first year of the occupation by the allies, and that of the capture of Sebastopol, each in succession, it may be said of the winter that its *mean* temperature was mild, much moisture being deposited in the early part of the season, to the end of December, after which there were heavy falls of snow, with low depression of the thermometer continuously through a space of three weeks. This, which may be regarded as the climax of the winter, occurred early in January; and in receding or advancing from that period, there was not any great duration of cold. A most striking peculiarity of the winter was the suddenness of accession of great variations of temperature, by which animal and vegetable life was submitted with rapidity to the accelerating and reproductive efforts that more properly belong to the spring, and again acted on by the retarding influences of the depth of winter, very marked changes of this kind being completed in the course of a few hours. These were simply the interchanges of the continental and insular conditions of climate which were felt extremely in the position occupied by the allies—the Chersonese—because the mountain barrier that shelters from the northern influences does not extend so far west. As early as the middle of February, the thermometer was observed to have risen to 70° Fahr.; and the *galanthus* and *crocus*—the first offerings of a grateful soil—were seen thus early bedecking every bank; and numerous varieties of bulbous and orchidaceous plants were in flower. The spring season, from the early part of March to the end of April, was warm, and the ground was moistened by showers that fell frequently in the day, the night being cold, clear, and dewy. The invigorating effects of this season on the animal kingdom was strongly exemplified in the large flights of migratory birds that tarried on these shores on their course to their northern fields, in the improved condition of those domestic animals that had withstood the vicissitudes of the winter, and in the joyful spirit pervading the camp.

The heat of the summer was at no time *excessive:* not equal to that to which our troops are accustomed when stationed at Gibraltar and Malta; but in May and June it was oppressive from extreme dryness of the atmosphere, with northerly winds that absorbed every atom of moisture, giving very few showers in return. This dry heat was much complained of, because of the great evaporation that goes on from the surface of the body while it lasts, but it does not appear to be unhealthy. The summer season changed, imperceptibly, into that of autumn: and, regarding the autumn as a whole, Dr. Smart knows no country in which the climate is found more agreeable to the sensations, by a succession of cool nights to warm, clear days, than marked its course to the end of October, when the north wind, blowing coldly at intervals, suggested the necessity of a return to winter clothing.

The change from autumn to winter, in 1854, was as sudden as that from winter to spring. This change depresses even more than that exhilarates, in consequence of the continued rains rather than of severe cold attending its commencement. The sudden mutations of temperature to which the climate of the Crimea is liable in the winter months were more hurtful to the health of our forces than any other of the climatic conditions. These changes of heat and cold were the sequences of the shiftings of the winds from the northerly and southerly direction, or *vice versâ.* A fall of 30° Fahr., within a few hours, was by no means an unfrequent occurrence. It has been said, that these great vicissitudes of temperature of the winter season, together with the frequent electric changes of the summer, are dependent upon the alternations of the two principal winds, or rather on the changes of relative altitude and position of the planes of these atmospheric currents, as determined by the mixed continental and insular conditions of the land, and by the configuration of its surface. High mountains range along its southern coasts, and form a boundary rising into the clouds that causes the insular conditions of climate to predominate south of the barrier over that narrow strip of coast which resembles in its scenery, as well as in its climate, the Italian "Riviera," between Nice and Genoa. To this shore the imperial family and the nobility resort to enjoy the balmy influences of a southern clime, in villas seated amid the soft seclusion of luxuriant valleys, or on the sunny aspects of mountain slopes that decline rapidly towards the sea. Northward of the mountain range, the whole aspect of the country and its climate, except in a few sheltered vales, are assimilated to the continental conditions of Southern Russia. The flanks of the mountain range, of which the western was the seat of war, are obnoxious to all the inconveniences of the alternations of climatic condition to which allusion has been made. The character of the produce of a land, and the earlier and later date of its harvests, are general, but withal good criteria of the average conditions of a climate. To apply this, it may be stated, that on first arriving on these shores, in the middle of September, 1854, it appeared significant of a moderate *mean* temperature of the summer, that the cereals had just then been reaped, and were but partially gathered, while the grape was not ripe for the vintage; and the absence of the olive afforded evidence that the production of its oil does not enter into the profitable agricultural resources of a country where much of the commodity is in demand.

These facts would lead to one of two inferences: either that the summer of 1854 was behind the average of years; or that the climate of the south-western portion of the Crimea, in its main features and mean temperature, resembles more closely that of Belgium and the south of England, that lie five degrees north of it, on the western or oceanic confines of Europe, than the plains of Lombardy and central France, which are situated within its own parallels.

Dr. Smart then proceeds to examine, seriatim, the atmospheric and marine currents; the effect upon temperature and climate of the great rivers which—after draining the vast expanse of land extending from the northern slopes of the Caucasus to the eastern precipices of the Swiss Alps, and from the Balkan and Dalmatian Alps to the hills of moderate height that form the northern boundary of the great central plain of Russia,—pour their waters into the Euxine; and the hygrometric and electric conditions of the atmosphere. For the explanation of the various phenomena of the Crimean climate, Dr. Smart handles these elements in a most able and philosophical manner. Dr. Smart's paper was concluded by a masterly sketch of the principal diseases of the camp in the Crimea during its occupation by the allied forces.

A discussion followed the reading of the paper, in which Dr. Milroy, Mr. Rawlinson, Dr. Snow, Dr. Greenhow, and Dr. McWilliam took part. Dr. Milroy and Mr. Rawlinson, having been employed as sanitary commissioners in the Crimea, bore evidence to the great zeal, ability, and usefulness, which marked Dr. Smart's conduct while in the responsible charge of the Naval Brigade Hospital at Balaclava.

ARMY MEDICAL AND SURGICAL SOCIETY.

SATURDAY, JANUARY 6TH, 1857.

THE first meeting of the above Society took place on the above evening, at No. 6, Whitehall, and was numerously attended by officers of the Medical Department of the Army. The Director-General was in the chair.

Mr. BLENKINS, of the Grenadier Guards, introduced the subject of Aneurism treated by Compression, and read the report of a case of

POPLITEAL ANEURISM,

which had occurred in a soldier of his regiment, and which had been cured in twenty-four days. The application of a seven-pound weight in the groin had been found to be the most efficient and least irksome means of applying the pressure. The contents of the sac were not absorbed; suppuration took place, and the whole fibrinous mass forming the interior of the tumour eventually escaped through the opening which had been made for the discharge of the matter. The mass, on admeasurement, was found to be five inches in diameter, having almost a circular form. The sac subsequently contracted and closed, and the man recovered the use of his limb. The author then referred to all the known statistics of aneurism by deligation and compression, showed how immensely superior the results were in favor of the latter mode of treatment, and expressed his conviction that no case should be ligatured primarily that was adapted for this mode of treatment. He expressed himself as decidedly opposed to the principles laid down by Mr. Syme on this head, as, when it failed, it rendered the secondary operation more certain of success by diminishing the risk of gangrene. In every case of popliteal aneurism which had occurred in the brigade of Guards since the revival of this method by the Dublin surgeons, this means had been resorted to, and in every instance with success. He (Mr. Blenkins) looked forward to favourable results from the application of pressure to the distal side of the artery, in cases where it could not be adapted to the proximal end of the vessel. He also alluded to a preparation, which was on the table, demonstrating a successful cure by compression of popliteal aneurism, which had occurred in the Coldstream Guards.

Mr. Pilleau related a case of popliteal aneurism of the left leg, which had occurred at Chatham, under the care of Mr. Dartnell, in which two tourniquets, or wooden clamps, had been applied over the femoral artery; one at about a hand's breadth above the knee, and the other below the groin; the clumps being tightened or relaxed alternately, as the pressure of one or other became irksome. On the fourth day, pulsation had entirely ceased in the tumour; and on the sixth day, the pressure of the tourniquets was lessened; on the day following they were removed altogether; and at the end of somewhat less than three months the patient was discharged for duty in the garrison, where he remained under observation for two months longer, and then rejoined his regiment in perfect health: long prior to his departure the tumour had entirely disappeared. The circumference of the limbs was alike at every part, the temperature the same, and the patient walked without any lameness. Mr. Dartnell remarked that, as far as he was aware, there was no case on record of popliteal aneurism in which the cure by compression had been so rapidly successful.

Dr. Monro alluded to the case which had occurred in the Coldstream Guards, and which, as the author of the paper had stated, furnished him the means of displaying to the Society the beautiful preparation on the table. The patient was admitted into the hospital on the 19th of April, 1852, with popliteal aneurism of the left leg, about the size of a small orange. Compression was commenced on the 22nd, by means of an instrument invented by Mr. Phillips, of the Westminster Hospital. The pressure was made at first on the artery, immediately below Poupart's ligament. In about two hours, however, so much pain was complained of, that the instrument was removed. Being convinced that the pain was excited more by alarm than anything else, manual pressure was made next day about an inch and a half below the origin of the profunda, and this was kept up by the assistance of convalescents in hospital for three days, for about eight hours each day. The man did not complain of any pain by this method, and said that he thought he could now bear the application of an instrument; a clamp tourniquet was accordingly placed on the thigh on the 26th, and moderate pressure only made on the artery; the sac was allowed to pulsate feebly. On the 8th of May the pulsation in the sac had entirely ceased, although no greater pressure had been made, and it had become considerably harder and smaller; the tourniquet was therefore removed, and nothing further was done than keeping the man in bed. He was dismissed to his duty on the 2nd of July, the functions of the limb having been restored. On the 19th of November of the same year he returned to hospital, with aneurism of the abdominal aorta, and died suddenly on the 10th of December. It being a good opportunity for obtaining a preparation showing the collateral circulation in the affected limb, a coloured injection was thrown into the common iliac on that side, and the result was, as was then observed on the table, a most beautiful preparation. One circumstance remarkable in the preparation was, that the femoral artery and vein, from the brim of the pelvis to nearly the centre of the popliteal space, were unobstructed and of the natural calibre.

Dr. Richardson (Fusilier Guards) related the following case of popliteal aneurism, which was then under treatment in his hospital:—Sergeant Robert L——, aged twenty-eight, of eleven years' service, was admitted on Sept. 10th, 1856, with a large aneurism occupying almost the entire popliteal space of the left lower extremity. All the characteristic symptoms were present, and the tumour was very elastic, and about the magnitude of the largest-sized orange. The disease was first noticed three months before. Pulsation was felt in the arteries of the foot, and the veins of the leg were distended. Three arterial compresses of different forms, but all calculated to compress the main vessel without otherwise impeding the circulation of the limb, were applied. One was placed over the arch of the pubes, the second just below the orifice of the profunda, and the third at the lower part of Hunter's canal. His diet was moderately nutritious. The instrument at first occasioned pain, but on the pressure being frequently changed from one point to another, he soon bore it well. I na few days the pulsations had almost ceased, whilst the pressure was continued, and the tumour began to solidify. On the 26th September the pulsation had entirely ceased, whilst the pressure from the pads had been in the interim diminished. On the 3rd October the patient stated that during the past night he had felt rather severe pain, followed he thought in the morning by a more marked diminution of the tumour. It continued to decrease gradually, and to become solid, until the 19th, when the apparatus, in consequence of the entire cessation of pulsation, was taken off. The measurement of the limb, which at first was fifteen inches and a half round the apex of the tumour, at the last date was but fourteen inches and a quarter. He has since been allowed to get up, and use moderate exercise. No constitutional disturbance ensued during the treatment, except an attack of diarrhœa, which continued rather severe for about a week. For about a fortnight he took the following pill twice a day:—Acetate of lead, two grains; powder of opium, a quarter of a grain. The man can walk about at the present date, with very little inconvenience.

Dr. **Jephson**, Surgeon of First Dragoon Guards, also forwarded the following case to the Society, which was read by the Secretary:—Private Charles M'I——, aged twenty-nine, a healthy soldier of nine years' service, was admitted into the Regimental Hospital on the 14thof November, with popliteal aneurism. He stated that, on the 9th of August, when disembarking at Portsmouth, he felt for the first time, when exerting himself, a sensation of weakness in the right leg. A few days afterwards he marched to Aldershott, and, when riding, felt an uneasiness, not amounting to pain. In the beginning of October, the leg became swollen, from the knee downwards, but it did not prevent him from doing his duty, and was unattended with pain. On the 1st of November, he marched from Aldershott to Exeter, where he arrived on the 10th, being five or six hours a-day in the saddle. During this time he suffered considerable pain down the leg, which became more swollen, and on the 14th he reported himself. The right leg and ankle were much swollen and œdematous, the superficial veins being very prominent and distended, and the patient stated that he had great pain, of a shooting kind, down the leg, when he moved about, but which did not exist on lying down. Upon examining the popliteal region, a large pulsating tumour was discovered, and on being questioned, he stated that he had observed a fulness there two nights previously, but thought nothing of it. The tumour was about the size and shape of a goose's egg, projecting much to the outer side; the pulsation could be entirely controlled by pressure on any part of the femoral artery, when the tumour entirely subsided, leaving a loose, flabby-feeling sac. On allowing the blood to return, he suffered great pain in the tumour. The measurement around the leg at that part was seven inches and three quarters greater than on the opposite extremity at the same site. No pulsation could be felt in the posterior tibial artery. The heart's action was increased, but quite healthy. Pulse 92, full and strong. Bleeding to sixteen ounces, and to take two scruples of compound jalap powder immediately. The diet was reduced to six ounces of bread, half a pint of milk, and two ounces of butter daily.

Nov. 16th and 17th.—The tumour suddenly enlarged, and pointed towards the outer side. Repeat compound jalap powder; also tincture of digitalis, fifteen minims, three times a day. Pulse still above 90.

24th and 25th.—The tumour has not been increasing so rapidly since he has taken the digitalis, and his pulse is reduced to 84. Complains of weakness, but has little pain in the leg. The thigh was shaved, and a twenty-grain solution of nitrate of silver applied three times over the skin of the groin and front of the thigh.

27th—Pulse reduced to 94. From the 14th, the measurement over the tumour had increased one inch and a quarter, and the limb now was three inches more in circumference than the same part of the left leg. On this day, at 3 P.M., commenced pressure in the groin with Carte's hip-apparatus, when the pulsation in the tumour was completely stopped, and also (he says) the pain complained of in the leg. The pressure was obliged to be increased from time to time, as pulsation returned in the tumour. At five o'clock, P.M., he complained of an indescribable sensation of weakness; the pulse was 62, slow, soft, and full; but on examining the tumour, it was found beating as strong as ever, and the pressure was increased.—Twelve o'clock, P.M.: He complained much of the pressure. Carte's circular compressor was used over the middle of the femoral artery, and pulsation in the tumour controlled by it, instead of by the hip-apparatus.

On the 28th, the pulse varied between 50 and 60 during the whole night; but about four o'clock A.M. it rose to 78. He slept for several hours during the night. The pressure, which now caused very little pain, was changed about every six hours from the middle of the thigh to the groin, and *vice versâ*, the pulsation in the tumour not being allowed to return during the change. Complained of being very drowsy.

29th.—At three A.M. to-day, on removing the pressure, there was no return of pulsation, and the tumour had become quite solid; the temperature of the foot and leg was natural. At 5 o'clock P.M., he complained of being hot and feverish, the bowels not being moved since the morning of the 27th. To take a castor-oil draught.

30th.—Feels quite well, but weak; tumour solid.

Dec. 4th and 5th.—Pulse 84. Œdema and swelling of the leg much reduced, and the measurement over the tumour was increased more than an inch. Pulsation in a small superficial artery over the back of the tumour to be felt; experienced some difficulty in keeping the patient quiet, as he considers himself quite well, except for some stiffness in the back of the knee.

Dr. **Jephson** remarked that this was a very successful case of cure by compression in thirty-six hours, and was one of the kind of cases, according to some authorities, which did not admit of that mode of treatment. It was an interesting circumstance to observe the falling of the pulse from 95 to 62 about two hours after pressure was commenced, and its continuing for eleven hours varying from 50 to 60, when it increased to 78. The solution of nitrate of silver was used with the view of rendering the skin less sensitive, and tolerant of pressure. The success of the treatment of aneurism by compression will, he thought, be found to depend greatly on the kind of instruments used, and on the case being closely watched. In this case, pulsation returned in the tumour more than fourteen times during the first night, after compression had been resorted to. To the care and close attention paid to the case by Mr. Andrews, the assistant-surgeon of the regiment, he was indebted for so quickly bringing it to a successful issue.

Mr. Blenkins, in reply to some remarks from Dr. Monro, considered that no venous congestion resulted from the pressure of the instrument. In the case alluded to, which had occurred in the Coldstream Guards, the vein was unobstructed down to the sac.

Dr. Maclachlan believed that if the records of the Medical Board were examined, a large number of cases would be found amongst the soldiers invalided, who had previously been cured of popliteal aneurism by compression. He considered that Mr. Blenkins's paper was a purely practical one, which in a Society of this kind was much to be desired. The interests of a patient affected with popliteal aneurism would be much neglected if the surgeon neglected to resort to compression. He alluded to the case of an old pensioner at Chelsea Hospital, who would not at first submit to the treatment by compression. In this case it was diagnosed that the whole arterial system was diseased, and fourteen days after the application of pressure the aneurism burst into the muscles of the leg. The artery was tied; gangrene followed, and the limb was amputated. Hæmorrhage took place from the site of ligature, but the opening through which the blood flowed was small, and by pressure of the finger over the orifice the bleeding was arrested, but he sank. At the post-mortem examination, two aneurismal sacs were found, but there was no obliteration of the vein. The sheath of the vessels, however, had united itself so closely to the coats of the artery that it was very difficult to pass a needle around it; this was to be ascribed to the effects of the pressure, and was a most desirable end. Indeed, when compression had been employed, an obstacle of this kind may be anticipated as likely to happen.

Mr. Blenkins was glad to hear the last speaker say that there was no objection to adhesion of the sheath to the artery; still Mr. Syme, of Edinburgh, thinks differently, and has adduced it as an argument against compression.

Mr. Bowen spoke of the use of Carte's double compressor, and mentioned that the results of compression were not so favourable in some hands as in others. He considered that Mr. Syme was an opponent of compression, on account of the great success which had resulted in his hands from the ligature; but he still thinks that every surgeon should give compression a fair trial.

Dr. Maclachlan inquired what was the general treatment employed in Mr. Blenkins's case?

Mr. Blenkins replied that the treatment was conducted upon antiphlogistic principles, with anodynes at night, and the limb was enveloped in a flannel bandage. Spirit lotions were also applied.

Mr. Wyatt alluded to the anomalous nervous symptoms which often ensued upon the commencement of the treatment of aneurism by compression, especially to the common symptom of drowsiness, which, although sometimes of sufficient importance to cause a temporary intermission of treatment, should not prevent its continuance subsequently.

Mr. Baker considered that in the case alluded to by Dr. Richardson, a pad in the groin had much assisted the other points of pressure. As a local application to the skin, he had found much benefit from employing a powder composed of powdered alum, one drachm; starch, four drachms.

The President congratulated the Society on the great success of this their first meeting. Some very practical remarks had been made, which must have interested all present; and, in the name of the Society, he begged to thank the author of the paper for having excited so very satisfactory a discussion.

HARVEIAN SOCIETY.

Dr. Ramsbotham, President.

Dr. Sanderson read a paper

ON THE ETIOLOGY OF DISEASES OF INFANTS UNDER THREE YEARS OF AGE.

It was limited to the discussion of a few amongst the many difficult questions which might have been included in the subject. Although they were of such a nature as not to admit of definite solutions, they were not on that account less interesting; indeed, the author thought that their very speculative character rendered them the more adapted to be brought under the notice of a Society having such objects as the Harveian. The first question noticed was that of the supposed influence of syphilis as a predisposing cause of disease amongst the infants under one year. It is admitted by a large proportion of those who have inquired into the subject, that syphilis is one of the most fatal influences to which the new-born child is subject. Although the author would not adopt this opinion as his own, he would assume it as a starting point in collecting such facts as, it appeared to him, could be adduced in its favour.

The much greater mortality of new-born infants, and the much greater frequency of premature births amongst the illegitimate than amongst others, were illustrated by the statistics of various continental countries, particularly France and Sweden, in the mortality returns of which persons of illegitimate birth are distinguished from the rest. The prodigious mortality of foundlings in France, amounting to fifty per cent. in the first year of existence, was noticed; and it was thought that such a state of things as is indicated by an average duration of life of four years cannot possibly be entirely attributable to the system of state tutelage, wretched though it be, under which they are placed in that country. The author then inquired into the grounds on which certain fatal diseases of internal organs, particularly of the lungs and thymus gland, are supposed to be of syphilitic origin, without however expressing a conclusive opinion as to their real nature. Under the heading of vitiated air it was inferred that the well-known deleterious influence of a town atmosphere on infantile life was rather dependent on the increased mortality of affections of the respiratory organs than of those of the zymotic class. This inference was supported by statistics, and illustrated by a variety of facts; amongst which were those referring to the frequency and fatality of respiratory affections amongst infants reared in stable dwellings. That variety of overcrowding which consists in the association of men and animals under the same roof is, perhaps, more directly productive of disease than any other. In concluding, the author illustrated, from the local returns of mortality of his own district, the fatal influence exercised on infantile life by the accumulations of stagnant and impure water in the form of canals. He compared this influence to that of marsh malaria; and showed from the statistics of marshy districts, both in this country and in France, that in that case also the pernicious agency was mainly exerted on the infantile portion of the population. The presence of an aguish constitution of the atmosphere in the neighbourhood of the Paddington Canal, was rendered the more probable by the remarkable facts, not only that intermittent fever had presented itself in considerable frequency, but that other febrile diseases had manifested, in their development, a markedly intermittent character.

WESTERN MEDICAL AND SURGICAL SOCIETY.

Dr. S. Scott Alison read a paper

ON THE SPHYGMOSCOPE.

The sphygmoscope, or cardioscope, measures the extent of the impulse of the heart. By means of it the mind is assisted in estimating the impression made upon the hand by the shock of the heart. In the investigation of many properties besides extent, this instrument affords evidence which the hand is scarcely fitted to supply. The sphygmoscope notes the very instant the impulse commences, the exact period it lasts, the stage of time (if any) which elapses between the impulse and the diastole, the moment of the commencement of the diastole, the time of its duration, and the pause (if any) between it and the next systole. It marks the unity or the divided character of the contraction or the diastole, and the rates of velocity of the respective parts when the movements are divided. The phenomena occurring in one impulse period are visibly compared with those occurring in another. With the aid of mediate or immediate auscultation, the relations of the heart's movements are made out with great delicacy and accuracy. It seems to indicate the relative time of the arterial beat, in all parts of the body, with the cardiac impulse; the arterial beat being discovered either by the hand, or by a small instrument of the same construction as the sphygmoscope, and by means of india-rubber tubing laid alongside the chief instrument. The extent of the impulse, as indicated by the sphygmoscope, the same as when the hand is employed, is most in children, in women, and in tall thin men: in the nervous and excitable; in those suffering under phthisis in its latter stages, hypertrophy, or hypertrophy with dilatation of the heart; while the instrument is little affected by the soft, fatty or flabby heart. The very fat scarcely influence the instrument. The sphygmoscope usually indicates a uniform rate of systole; sometimes it marks a difference of rate between the commencement and the conclusion; and a division has been noticed in one or two cases. The same observations hold in respect to the diastole. No pause is usually observed at the conclusion of the systole, but in one or two persons a slight stop has been noted. Contrary to what might be expected, it is only very rarely that any distinct pause is indicated between the conclusion of the diastole and the commencement of the concluding systole. The impulse of the heart is indicated by the rise of the instrument, the diastole by its fall. The first sound of the heart is synchronous and isochronous with the ascent, and the second sound is synchronous with the first part of the fall. The finger applied to the radial artery feels the arterial beat at the commencement of the fall; a small instrument applied to the same artery, and having its glass tube placed beside the heart instrument, is affected at the instant the latter instrument begins to fall. The radial pulse, estimated in either way, is likewise synchronous with the second sound of the heart. The synchronousness of the commencement of the fall of the heart instrument, indicating the commencing diastole of the radial pulse felt by the finger and indicated by the small instrument, and of the second cardiac sound, is ascertained by the corroborating and mutually guiding evidence of three senses—viz., the eye, the .touch, and the ear. This important fact is opposed to the teaching of both physiologists and pathologists. While the radial artery beats only at the conclusion of the rise of the instrument,—i.e., behind the commencement of the systole by the whole period of the duration of that movement, which is equal to half a second in the case of a man whose heart beats sixty times in a minute, and whose systole and diastole are of equal duration, and in whom no pauses are made out,—no appreciable interval is made out between the rise of instruments placed upon the most distant parts of the body. The simultaneous rise of distant arteries, and their equal allochronousness with the cardiac rise, is seen by placing the instruments close together. While the heart instrument rises the arterial instrument falls, and *vice versâ*. The pulse beat may be conveyed through four or more feet of elastic tubing, without loss of time. Thus, a small short glass tube applied to the radial artery, and another supplied with four feet of elastic tubing adapted to the same vessel, rise at the same instant of time. The diastole of the pulse is shorter than the systole of the heart, and the contraction of the artery always continues till the next diastole or pulse. When the pulse intermits, the contraction equally continues till the next pulse. In disease, the impulse may be greatly reduced or altogether lost, as in emphysema and double hydrothorax. The impulse area is increased in hypertrophy with dilatation, and the impulse that may be found, displaced, raised as high as the second rib, or lowered as much as the eighth. The displacement may occur to the right side. Systolic murmurs, like the first sound of the heart, are heard during the ascent of the instrument: they are isochronous. Diastaltic, aortic, and pulmonary murmurs are heard during the descent, and the sound and the fall are isochronous, unlike the healthy second sound and the fall—the healthy sound occupying only the first part of the fall. The healthy sound depends upon an act occurring at the first part of the diastole; the murmur depends upon an act—viz., regurgitation—taking the whole period of the diastole. Formissement botaire has hitherto been found to occur during the ascent of the instrument,—i.e., with the ventricular systole. This has been felt during the rise, while regurgitant arterial murmur in the same patient has taken place during the fall. The Sphygmoscope gives intimations of cardiac impulses which fail to give any appreciable cardiac wave. For the purpose of restraining the elevation of the præcordial region in the act of inspiration, and thereby securing the unmixed cardiac movement, a border of wood is supplied to the cup of the instrument, and by means of this the præcordial region is slightly compressed. Modified, this instrument is converted into a pneumatoscope, or breath-explorer. It gives the duration of inspiration and expiration, and of pauses when they occur. When expiration is divided, the fall of the instrument is divided. No pause has been observed between the completion of inspiration and the commencement of expiration. But in some persons a very long pause—one-third of the inspiratory period—has been noted between the completion of expiration and the commencement of inspiration. The comparative extent of inspiration in the two sides of the thorax, or in different parts of the same side, is exhibited by different instruments having their glass tubes brought together for inspection. By means of two instruments so arranged, it has been found that the commencement of the respiratory acts at the top of the chest and at its base is simultaneous, contrary to the views of some teachers. The external inspiratory muscles and the diaphragm act in perfect unison.

Most of the observations made with the sphygmoscope on diseased heart have been obtained in the author's practice at the Hospital for Consumption and Diseases of the Chest, at Brompton.

At the conclusion of the reading of the paper, Dr. Alison demonstrated the application of the instrument upon some gentlemen present, confirming the views set forth by him.

A Mirror
OF THE PRACTICE OF
MEDICINE AND SURGERY
IN THE
HOSPITALS OF LONDON.

Nulla est alia pro certo noscendi via, nisi quam plurimas et morborum, et dissectionum historias, tam aliorum proprias, collectas habere et inter se comparare.—Morgagni. *De Sed. et Caus. Morb.* lib. 14. Proœmium.

CHARING-CROSS HOSPITAL.

Disarticulation of the Hip-Joint of a Young Man aged twenty-four, for Extensive Disease of the Thigh, with complete Necrosis of the Femur, of Four Years' duration; Recovery.

(Under the care of Mr. Hancock.)

If our readers will contrast the subjoined case, in which amputation of the thigh was being performed for long-standing disease of the bone, which had reduced the patient to the last stage of exhaustion and extreme debility, with the one which we have recorded on page 247, they will be impressed with the difference in the condition of the two patients submitted to operation. Mr. Curling's patient, although labouring under a disease which would have in a very limited time destroyed life, still possessed a good constitution and tolerably good health; the operation therefore in her gave every chance of success. Mr. Hancock's, on the other hand, we scarcely expected to see survive the amputation of the thigh alone; but when this procedure was converted into disarticulation, we thought the patient's powers of endurance would not long stand the shock, and through the politeness of that able surgeon we were permitted to watch the case for a little while after being conveyed to bed, and although there was some restlessness, taking all in all, he went on well. The carefully drawn up notes of the case detail the progress towards ultimate recovery under circumstances which appeared to be the most adverse. It is such cases as these that speak so much for the triumph of our art, and afford the useful lesson that we should not neglect the last means at our command to give a chance of life. The thigh of this patient presented an appearance as if riddled with musket-balls, openings being present almost everywhere, from which oozed an offensive dark-coloured matter. It seemed an unfavourable case even for amputation, and when that operation was nearly effected, a probe readily passed upwards into the neck of the bone through a cloaca, thus showing how extensive was the disease, and the necessity of removing the whole of it. With much dexterity Mr. Hancock converted the operation into disarticulation, cutting through the anterior part of the capsular ligament, thus exposing the head of the bone, and the knee being rotated downwards and outwards by Mr. Canton, the head was turned out and the operation then completed. Very little blood was lost, as in Mr. Curling's case, but the operation was much more complicated than if amputation at the hip-joint had first been determined on. In the very short space of eight weeks, this patient returned to his home in the country. In both of these cases, the advantages afforded of performing such an important operation when the patients were completely under the influence of chloroform were very evident, and most materially lessened the shock on the nervous system.

This is the second time—equally with Mr. Syme and Mr. Liston—that Mr. Hancock has performed this operation; the first time upon a Pole, who threw himself out of a third-floor window of a house on fire, in April, 1852, sustaining a compound fracture of the right arm, and left leg and thigh. He went on well until the seventeenth day, when erysipelas attacked the leg, and subsequently it became gangrenous. Mr. Hancock proposed amputation above the fracture, but in performing the operation, he found the bone split longitudinally into the joint; he therefore amputated at the hip, but the poor fellow died almost immediately after the operation.

The necessarily long, but very valuable details of the following case, prevent our dwelling at greater length upon it, but the description of the diseased bone will show how wide-spread was its implication, and to what an extent the soft parts were involved.

Abraham B——, aged twenty-four, a farm labourer, residing at Ore, near Hastings, was admitted on the 25th of September, 1856, suffering from necrosis of the femur. He enjoyed tolerable health until about four years ago, when the disease commenced with a sudden pain, referred principally to the inner part of the knee-joint, which quickly swelled; the swelling in the course of three months extending up the thigh to the trochanter major. About this time it pointed about the lower third of the thigh, on the outer side, and an incision was made in this situation by the surgeon who attended him, giving exit to a large quantity of thick, curdy matter, followed by the subsidence of the swelling. Poultices were applied, the wound continuing to discharge for several weeks, when it healed up. He never suffered pain excepting at first, in the knee. Shortly after the wound healed, the thigh again became swollen, but not to the same extent as before; an opening took place below and posterior to the original wound, followed by profuse discharge, and the reduction of the swelling; this was succeeded by other openings in various parts of the thigh, accompanied by considerable discharge, fever, and night-sweats, and the occasional escape of small pieces of bone.

On his admission, Sept. 25th, he was put upon full diet, with four ounces of wine, and an ounce of cinchona mixture, with carbonate of ammonia, five grains, three times a day. The limb, on examination, presented the following appearances:—The thigh flexed on the pelvis, and the leg on the thigh; no motion in the knee, but good motion in the hip-joint; the whole limb shrunken and the soft parts consolidated, so as to prevent the skin moving freely on the limb. From the great trochanter down to within two or three inches of the condyles were various openings, one to the outer side, just below the trochanter, through which a probe could readily be passed to the bone; others, again, on the back of the thigh communicating with sinuses extending downwards towards the middle of the shaft of the bone, whilst lower down, on the outer side, were three others, through which the probe could readily reach the rough diseased bone. There were also two openings on the inner side of the thigh, one at the junction of the middle with the upper third, and the other lower down, a little above the knee-joint. These various openings discharged unhealthy, dark-coloured matter. His countenance is anxious and careworn, and he is greatly emaciated.

Oct. 18th.—The patient's health having improved, and it being evident that the limb could not be saved, it was decided in consultation to amputate, and the patient having consented, Mr. Hancock, assisted by Messrs. Canton, Hird, and Barlow, proceeded to operate, with the intention of removing the limb at the inter-trochanteric line. The patient having been placed under the influence of chloroform, Mr. Hancock commenced by carrying a semilunar incision across the front of the thigh, commencing on the inner side, about two inches below the body of the pubes, and terminating on the outer side, just below the great trochanter. This incision penetrating down to the bone, the flap thus marked out was dissected up, and the posterior flap next made and dissected back, the induration of the soft parts necessitating complete dissection, as the parts did not retract in the slightest degree. In order to prevent any unnecessary loss of blood, the femoral artery was now tied as well as the profunda. Upon carefully examining the bone before sawing it through, a probe introduced into a cloaca just below the great trochanter readily passed upwards into the neck of the bone, and Mr. Hancock determined at once upon removing the limb at the hip-joint. He therefore continued the external incision upwards to about an inch above the great trochanter, and dissected up the flaps to the same extent. This exposed the muscles attached to this process, and the capsular ligament of the joint. A circular incision, carried from without, downwards, backwards, and inwards, commencing behind the trochanter, divided these muscles, as well as those lying beneath, and inserted into the digital fossa; also cutting through the anterior portion of the capsular ligament of the joint, exposing the head of the bone; and Mr. Canton having rotated the knee downwards and outwards, the head of the bone and ligamentum teres were brought into view. This latter was cut through, and the head of the bone dislocated; the knife was then carried behind, and the operation completed by the division of the posterior portion of the capsular ligament. The vessels in the posterior flap were tied, and the flaps having been brought together by sutures, free openings having been left at each extremity for the exit of matter, the patient was returned to his bed, very little blood having been lost during the operation. Ordered half a drachm of tincture of opium, with five grains of carbonate of ammonia, in an ounce of camphor mixture, at once, and to be repeated every six hours.

19th.—Has passed a restless night, and complains of sickness; he has vomited several times during the night. Pulse 120, very weak. Ordered an ounce of the following mixture every four hours, with half an ounce of lemon-juice—viz. carbonate of ammonia, two drachms; distilled water, eight ounces.

20th.—Better; the sickness has diminished, though he still vomits occasionally; pulse still quick and small, 110; his tongue is moist, and his countenance is cheerful; he complains of but little pain in the stump; his bowels have acted. The dressings were removed to-day for the first time. Considerable union by first intention has taken place, and there is a free discharge of healthy pus from the depending opening on the outer side.

21st.—Has passed a better night; the sickness has been less. The stump has been rather painful; pulse 118. Considerable discharge of healthy matter from both ends of the wound.

22nd.—Much the same. Some of the sutures came away to-day.

23rd.—Not so well; pulse 130; skin hot; great thirst; tongue dry and coated; countenance anxious; vomiting more frequent. There is pain on pressure over the lower part of the abdomen; bowels are confined; there has been less discharge during the night. As the matter appears to bag, and not to escape readily, Mr. Hancock ordered him to be turned over towards the affected side, and to take three grains of chloride of mercury, with six of compound extract of colocynth.

24th.—Much better. The bowels have acted well, and the wound discharged freely. The sickness and pain have subsided; pulse still rapid.

25th.—Not so well to-day, although he says he feels quite comfortable; had profuse perspiration last night, with cough and rusty sputa, slightly streaked with blood; pulse still rapid; discharge now very considerable. To have half a drachm of dilute nitro-muriatic acid, with an ounce and a half of decoction of cinchona, three times a day.

27th.—Better.

28th.—Not so well. Has diarrhœa with sickness. To have ammonia mixture, with lemon-juice and dilute hydrocyanic acid, every six hours.

29th.—Better; diarrhœa and sickness have stopped; the wound looks healthy; discharge free. Another ligature came away to-day. Pulse improved, as is his appetite; cough still continues, the sputa being slightly rusty and tinged with blood, and his breathing hurried. Repeat cinchona mixture, with nitro-muriatic acid.

31st.—Improves daily; is able to sit up a little in bed.

Nov. 2nd.—Much better; is getting stronger; has very little cough or expectoration, the latter being mere frothy mucus; the night sweats much diminished; pulse stronger and slower; the stump is healing rapidly, and the discharge has now greatly decreased. Repeat mixture.

7th.—Has continued to improve; the last ligature has come away to-day; the cough and expectoration have almost entirely disappeared, as have the night sweats. Repeat mixture.

14th.—Has so much improved as to be able to sit up for an hour; the inner opening is healed, and the discharge from the outer is now small.

19th.—Is much improved in all respects; has sat up to-day for nearly five hours; he says he has not felt so well for years.

26th.—May now be considered well; the wound is almost entirely closed; there is scarcely any discharge; his cough and expectoration have entirely ceased; he is gaining flesh, and is able to walk about the ward with crutches.

His diet throughout has been nourishing, and he has been allowed brandy, wine, gin, or beer (as he fancied) from the day of operation. He returned to his home in the country on the 13th of December.

Condition of the Femur.—The femur, through its whole extent, and on every aspect, more especially the posterior, exhibits an extensively diseased condition. Both articular ends, particularly the lower, soft and spongy; the upper portion of the condyle denuded of cartilage. The thin layer of compact tissue absorbed from the upper and anterior part of the neck of the bone, exposing the partially absorbed cancellous structure beneath. The upper fifth of the anterior surface of the shaft expanded to twice its natural size. Close to the line of junction of the neck with the shaft and great trochanter is a perfectly circular fistulous opening, about three-quarters of an inch in diameter, with smooth, rounded edges passing horizontally into the interior of the shaft, surrounded by osseous growths in the form of osteophytes, irregular spiculæ, and scaly plates. A little below, and external to the above-mentioned fistulous opening (near the insertion of tendon of glutæus maximus), and communicating with it, is a second, also nearly circular, directed obliquely upwards, having in front of it a long, thin, bony scale. Below the upper fifth of the shaft, for about three inches in length, the front of the bone is smoother, and of natural size, but below this point the whole of the remaining surface down to the condyles is thickened and scabrous. The posterior aspect of the bone shows the most extensively diseased condition, being much more expanded, and thickened by irregular bony deposits, having a series of large fistulous openings (some of which readily admit the little finger) along the whole extent of this aspect of the shaft, and being covered, from the back of the root of the great trochanter to the condyles, with irregular and osteophytic and scabrous growths, forcibly reminding one of the gnarled and decayed trunk of a tree denuded of its bark; the form of the bone from the lesser trochanter to the condyles completely lost, there being no trace of the linea aspera, or of the lines leading from the trochanters towards it, these being obscured by the scabrous deposits of bone in some situations more than an inch in thickness. About an inch external and a little inferior to the trochanter minor is a fistulous opening, three-quarters of an inch in diameter, circular, directed obliquely towards the centre of the shaft. Two inches below the trochanter minor is a second opening, directed upwards. Two inches below the second opening is a third but smaller opening, in the mesial line. One inch below the latter is a fourth, which is partially overhung by a strong, thick, rugged, projecting process of bone, directed downwards and outwards. A fifth opening is situated an inch and a half below the latter, and has also a similar rugged, projecting process of bone overhanging it, and directed backwards, upwards, and inwards. A sixth opening is situated half an inch below and external to the last, surrounded by a rugged marginal process of bone. The seventh and eighth openings are smaller, situated in a line below the fifth. The posterior and inner wall of the shaft, for the space of three inches above the commencement of the popliteal surface, is entirely removed by absorption, exposing the medullary canal, altogether deprived of its cancellous structure in this situation, and containing several sequestra; the popliteal surface of the bone very rough and irregular; and at the root of the external condyle is another (the ninth) fistulous opening on this aspect of the bone. On the inner aspect of the bone are also three large fistulous openings, one at the junction of the lower border of the neck with the shaft, a second about three inches below the first, and a third near the middle of the shaft. When a longitudinal section of the bone was made, a large quantity of pus escaped from every part of the bone. The cancellated structure of the head, neck, trochanters, and condyles showing large cavities caused by absorption, and traces only here and there of the cancelli existing in the shaft from the great trochanter to the condyles, the parts previously occupied by the cancelli being in some places smooth, and covered by a pulpy membrane (pyogenic cyst?), resembling a layer of pus; in other parts rough, from necrosed portions of bone still attached to the shaft. Here and there along the medullary canal oblique and horizontal partitions of compact bone exist, forming septa between the extensive cavities, lodging the deposits of pus.

ST. GEORGE'S HOSPITAL.

Stone in the Bladder of a Child Seven Years of Age; Extraction of a Calculus the size of a Pullet's Egg; Laceration of the Rectum; Recovery.

(Under the care of Mr. Cutler.)

It is astonishing how little inconvenience and suffering may sometimes be produced by a very large stone in the bladder, when a comparatively small one will lead to unusual irritation and misery. This we have seen many times, and it is the experience of most surgeons. In the following case, the little fellow had symptoms of stone, but of little moment as contrasted with its actual size, which, for a child of his age, was unusually and remarkably large. The operation, therefore, was attended with some difficulty in its removal, and the rectum was unavoidably wounded, a circumstance which, in an adult, might have given cause for anxiety, but in a child, as we anticipated, was followed by no unfavourable result, as the little fellow was discharged quite well, without any untoward symptoms. On the 2nd of October we saw Mr. Cutler remove a small lithic acid calculus from the bladder of another child, three years of age, admitted three weeks before, which was likewise followed by a good cure and discharge from hospital on the twenty-ninth day.

Thomas L——, seven years of age, who has lived all his life in London, was admitted, on the 15th of August, with stone in the bladder, which it was stated had been existing for two years. There was no inconvenience from its presence, the boy did not appear to suffer much, and nothing urgent was manifest about the symptoms, they were so slight and mild that any one would suppose a very small stone was present in the bladder. Mr. Cutler performed the usual lateral operation[*] on the 21st of August, whilst the patient was under the influence of chloroform; there was no difficulty whatever in performing the operation, nor in catching the stone, which was found to be of an enormous size for a child, and occupied some time for its extraction—thirteen minutes and a half. The difficulty consisted in its withdrawal. This was accomplished with some manipulation; but owing to its size, the rectum was lacerated, and some fluid fæculent matter passed through the wound. During the operation the child was evacuating from the rectum, and the forcing was so strong as to prolapse the gut; it seemed, therefore, as if it was predisposed to come in contact with this large stone, which fully equalled a pullet's egg in bulk.

Sept. 4th.—The little fellow has gone on without a single bad symptom, the wound has very much contracted and is closing, and to-day the urine passed by its natural channel. The slight laceration of the rectum, produced by the great size of the stone at the time of the operation, is not likely to be of any inconvenience.

Subsequently to this the laceration in the rectum perfectly healed, the child got quite well, and was discharged on the 22nd of October.

GUY'S HOSPITAL.

Three examples of Fibro-Cartilaginous and Gelatino-Sarcomatous Tumours of the Neck successfully removed.

(Under the care of Messrs. HILTON, BIRKETT, and CALLAWAY.)

THERE is perhaps no branch of surgical pathology which proves more embarrassing to the student of the present day than a knowledge of the various kinds of tumours; and yet surgery furnishes none more interesting. Unless he be well tutored in the use of that most valuable and important auxiliary, the microscope, he will very frequently find himself astray. The diagnosis of these growths, which a few years ago seemed to be an easy matter, is now one of some difficulty. Who can tell a fibro-nucleated from a fibro-plastic tumour before its removal? and no surgeon will dispute the propriety of extirpating either. The great question to determine in all cases—whether before or after removal, in the majority of instances, matters little—is the important point of the nature of the growth, and the knowledge whether it is likely to return. So far as we can observe, in the large field afforded by our London hospitals, a great proportion prove to be innocent or benign, and when once removed, no return is ever experienced. It is otherwise in growths of a malignant character—taking, for example, the recurrent fibroid tumour, which, to the inexperienced, might seem to be a harmless growth, yet its frequent return and ultimate destruction of life, proves that we have a dangerous disease to contend with. We shall endeavour, as opportunities permit, to record examples of the different varieties of tumours, giving the peculiar features of each, and to-day we present three examples removed from the parotidean region of the neck by Mr. Callaway, Mr. Hilton, and Mr. Birkett, the names being in the order of the date of extirpation, the notes of which were kindly furnished us by Mr. J. F. Gray, the house-surgeon to the hospital. The microscopical appearances of these tumours are of very great interest, and illustrate the different stages of the fibro-cartilaginous tumour, which form of growth seems to have a special predilection for the parotid region of the neck.

A tumour of a similar character we saw removed by Mr. Erichsen, at University College, in August last, from a young woman aged eighteen, in the right sub-maxillary region, the size of a walnut; it had been growing six years, was lobulated, very hard, and resembled a fibrous tumour on section, with a tendency to run into cysts, true cartilage being interspersed throughout. We were present also, in June last, when Mr. Fergusson, at King's College Hospital, removed a parotid tumour from an elderly, stout female, which, on section, resembled the roe of a fish, and was quite granular. We have no doubt it belonged to the same class of tumour as the cases we give to-day.

Mr. Callaway's Case.—Catharine ———, aged twenty-six years, married, the mother of three children, a very healthy, robust woman, was admitted August 20th, 1856, on account of a tumour situated immediately beneath the inferior maxillary bone. It commenced six years ago as a small painless swelling, originating without any apparent cause, and gradually increasing to its present size. Several attempts have been made to discuss it by means of iodine, lotions, plasters, &c., and the patient now solicits its removal on account of its bulk and deformity. It is a nodular tumour, rather larger than a hen's egg, extending from the angle nearly to the symphysis of the right lower jaw, of an irregular ovoid shape, firm, but rather elastic to the touch, painless and free from tenderness, freely moveable and unadherent to the integument. Deglutition is not in any way impeded. The patient's health is remarkably good.

On August 24th, Mr. Callaway made a semicircular incision (having its concavity upwards) over the tumour, and readily dissected out the growth. Its attachments to surrounding parts were but slight; it was close to the hyoid bone, and the lingual artery could be plainly seen and felt pulsating beneath the finger. There was little hæmorrhage, and the patient's subsequent recovery was speedy.

Mr. Hilton's Case.—John ———, aged twenty-three years, was admitted October 2nd, 1856, on account of a tumour situated immediately below the left ear, extending backwards beneath the sterno-mastoid muscle, and forwards over the angle and posterior half of the body of the lower jaw. Its surface was marked by irregular cicatrices, the result of a previous operation. It was about the size of a small fist; uniformly hard to the touch; painless and free from tenderness; firmly fixed between the angle of the jaw and mastoid process, and considerably interfering with easy deglutition. The patient was in very good health, though his habits were irregular and intemperate. He states that the swelling commenced twelve years ago, without any assignable cause, and slowly increased till, about four years ago, it had reached its present size, when it was partially excised, the operation being followed by facial paralysis, which still continues. In a few weeks the swelling again began to increase, and has continued gradually enlarging till the present time.

On the 14th of October, Mr. Hilton, with some difficulty, removed the whole tumour by means of an inverted T incision, when it was observed to implicate extensively the parotid gland, and to extend deeply into the side of the neck between the external and internal carotid arteries. When the operation was completed, the thin muscular walls of the pharynx were exposed, together with the internal jugular vein; the internal carotid artery also could be felt plainly pulsating. The external carotid was divided in the operation, and was ligatured. Some small vessels were also secured, but there was still free oozing from the wound; a piece of sponge was therefore introduced. This was removed on the 15th, without occasioning further hæmorrhage.

The patient progressed favourably till the 17th, when an attack of erysipelas supervened, which, however, subsided in about a week. He is now quite well.

Mr. Birkett's Case.—Mary Ann ——, a very healthy-looking married woman, was admitted Nov. 19th, 1856. She states that fourteen years ago, a hard painless swelling appeared immediately below the right ear, and soon attained the size of a walnut. For nine years it remained perfectly stationary, but at the end of that time began to increase rather rapidly, and has continued gradually enlarging up to the present date. She has not been under treatment, except that lotions and fomentations were applied, without benefit, when the tumour's bulk was observed to be decidedly increasing.

On admission, there was a swelling about the size of a man's fist, placed immediately below the ear, and extending over the angle of the lower jaw and to some distance down the side of the neck. It was smooth, lobulated, and not very vascular-looking, freely moveable over the subjacent parts, free from pain or tenderness, and unadherent to the integument. The lobes on its surface varied in consistence, some being tolerably firm to the touch, others so soft and elastic that the sense of fluctuation was closely simulated. The woman's general health was very good.

On Nov. 25th Mr. Birkett made a simple longitudinal incision over the tumour, and by reflecting the lateral flaps, dissected out the growth without difficulty. There was free bleeding from the vessels divided on the deep aspect of the tumour, but this was readily checked by a few ligatures, and the wound closed with lint and plaster. The patient has since been making a satisfactory recovery.

ST. THOMAS'S HOSPITAL.

Stone in the Bladder of a Man aged sixty; Lithotomy; Extraction of a Uro-Phosphatic Calculus the size of a Hazel-Nut; Death from Perforation of the Stomach.

(Under the care of Mr. Simon.)

The patient who was the subject of the following case was long a sufferer from irritable bladder, which most probably gave rise to the formation of a stone, although bloody urine was a marked symptom before its nucleus was formed. In the history there are no symptoms referable to the kidneys, and these organs were found healthy after death. This condition of the bladder, in an irritable constitution, will account for the extreme restlessness after the operation, which was increased by the presence of an ulcer of the stomach, which was not suspected during life, and which, now that the powers of vitality became lessened, went on to perforation, and so destroyed life. An interesting point in the case, taken with the presence of this lesion, is the pain of the abdomen before the operation, localised in the epigastrium after it, but masked by suffering elsewhere. We have no doubt but that this poor man had long been suffering from a small gastric ulcer, which took on increased action after being operated upon. The notes of this case were kindly furnished us by Mr. Ord, the surgical registrar to the hospital.

William P——, aged sixty, a porter, admitted into Isaac's ward September 30th, 1856. He had generally enjoyed good health up to ten years ago, when one day, on passing urine, he found the stream suddenly stop. He never remembers passing gravel; his water has been often thick, with a dense sediment, often bloody. He has had instruments passed for the last eight or nine years. He was in this hospital on account of the bladder symptoms about two years ago. Instruments were then passed, and, temporary relief being afforded, he was discharged. After going out, he became worse than ever; pain over the whole abdomen, bad appetite, and want of sleep, all preventing him from doing any work since January last. On the day of admission, he was taken into William's ward, under the care of Mr. Simon, who was attending to Mr. Mackmurdo's patients. He complained of much pain in the abdomen. The urine deposited a thick sediment of phosphates and mucus, and was alkaline. Full diet.

Oct. 7th.—He was sounded by Mr. Simon, who discovered a stone in the bladder.

11th.—He was brought into the theatre, and, chloroform being administered, Mr. Simon performed lithotomy, cutting into the bladder by a nearly transverse cut, rather further back than usual, and using a broad knife. Only a small notch was made in the prostate, and the opening was enlarged with the finger. The staff was a very large one, greatly curved, and with a large lateral groove. Owing to the great depth of the perinæum, there was at first some difficulty in reaching the stone. It was at last removed by a very long pair of forceps, and the patient, who had lost very little blood, was removed to bed. The stone appeared to be originally uric acid covered over with phosphates; was about the size of a small walnut, and flattened. In the evening, when the patient was moving somewhat impatiently in bed, hemorrhage occurred from a superficial vessel in the wound, which was stopped almost immediately by torsion. A watch was maintained till the following day, and pressure by the finger was (unnecessarily) applied from time to time. He was in a very nervous state, and at times quite unruly. There was some bleeding from the prostate into the bladder, and a clot was discharged with the first urine. To have six ounces of brandy and one-third of a grain of muriate of morphia, at once.

12th.—He did not sleep during the night. This morning he feels pretty comfortable. A pain in his stomach, of which he complained yesterday, has been relieved by the stone poultice. He is very feeble and nervous. His face is pallid and anxious. There is no return of the hemorrhage; tongue a little furred. To have beef-tea, eggs, and milk diet.

13th.—Wound looks healthy. He has slept a little better and feels pretty easy. The urine scalds him as it comes away. To have three ounces of wine.

16th.—Sleeps better. Has been much purged; his appetite is pretty good, and his mind seems in a healthier state, though he is still very nervous. The urine all passes by the wound, which looks healthy. Compound rhubarb pill five grains to-night.

18th.—Bad night's rest; bowels relieved many times. Urine comes by the wound, causing scalding. Brown fur on tongue; thirsty; appetite bad and capricious. No headache; skin cool; pulse 100, soft and compressible.

20th.—Not so well; laboured respiration; tongue has a white fur, dry, red at edges; pulse 84, soft, dozes much, but not long at a time. Wound inactive; no headache; pallid; restless in mind and body; takes food pretty well; refuses meat. Brandy and arrowroot, extra beef-tea. His diarrhœa was relieved yesterday by an astringent mixture.

22nd.—Complains of great pain, caused by the passage of the urine through the wound. Tongue coated with a thick white fur, dry, thirsty; very weak; continually complaining; pulse 90, small; face pallid; eyes sunken; bowels relaxed; irritable to an excess. To have twenty minims of dilute nitric acid in water three times a day.

24th.—Sleeps very badly; very irritable; tongue moist, rather coated. Several small abscesses on the arms and other places, which were opened by Mr. Simon. Appetite better; pulse 84, feeble; diarrhœa, cough and expectoration.

26th.—Better; very irritable. He cannot take his medicine.

29th.—Ordered two grains of quinine twice a day.

30th.—Better; he feels stronger, and is less irritable, though the diarrhœa continues. He is capricious in appetite; tongue not so red.

31st.—Diarrhœa somewhat less. He complains of great pain in the epigastric and hepatic regions. Tongue cleaner, but still red; less irritability.

Nov. 1st.—Great pain in the epigastrium, with vomiting and diarrhœa, attacked him in the morning; the pain increased, and he fell into a state of collapse of which he died.

At the autopsy, a perforation of the lesser curvature of the stomach was discovered, with general peritonitis and effusion of lymph.

LONDON HOSPITAL.

Disarticulation of the Hip-Joint in a Female aged forty, for medullary Cancer of the Thigh, commencing eight Months before; Puncture by a Trocar five Days previous to the Operation, giving exit to thirty Ounces of bloody Fluid; Recovery.

(Under the care of Mr. Curling.)

Within the past nine months we have had the opportunity of witnessing on two occasions the operation of amputation at the hip-joint—the first by Mr. Curling, at the London Hospital, in March last; the second by Mr. Hancock, at the Charing-cross Hospital, in October. Both have been perfectly successful in their results.' Our readers are aware that this operation is seldom had recourse to in civil practice, as a glance at our "Mirror" for some years past will show. It is more frequently the task of the military surgeon to perform this operation in the field, and generally under great disadvantages. Those surgeons who have studied this subject will probably recollect that during the eventful days of June, 1848, in the French capital, amputation at the hip-joint was performed four times; three with quickly fatal results; but the fourth was successful; the patient—an insurgent at the Hôpital St. Antoine under the care of M. Nélaton—lived four months; the stump had perfectly healed, but death occurred from pneumonia of the left lung, with ulcerations of the large bowel. This patient, from being an insurgent, was subject to visits from the police, which to some extent must have influenced the result.[*] With the very large field of civil practice afforded by the London hospitals, the opportunities for witnessing this important procedure are comparatively limited; few surgeons therefore have the chance of performing it more than once during their active career, although it has been twice done by Mr. Liston, and also twice by Mr. Syme. In the cases in which it has been resorted to, it has been justified only under the most urgent circumstances; very few indeed would hazard it unless as a last resort; and when it is considered how extensive is the mutilation, it is gratifying to know that in its results there is not so great an amount of fatality as was believed but a short time back. The following extract from Erichsen's "Science and Art of Surgery" will, we think, satisfactorily show this:—

"The result of amputation at the hip-joint has been investigated by Dr. Stephen Smith, of the United States; he has collected 98 cases in which this operation has been done, of which 56 died, and 42 were cured. With reference to the cause of amputation, it is stated that in 30 cases it was for injury; of these 18 died, and 12 were cured; whilst in 32 cases in which it was done for chronic disease, 16 died, and 16 were cured. It is a remarkable fact, according to Dr. Smith, that the mortality from this operation has been greatly less of late years than formerly; this he attributes to the cases having been better selected, the operation more skilfully performed, and, above all, to the employment of anæsthetics; indeed the employment of chloroform must necessarily greatly diminish the risks of an operation such as this, in which the effect of a shock is much to be dreaded."—p. 78.

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[*] See British American Journal of Medical and Physical Science, vol. iv., for 128 cases of Gun-shot Wounds, reported by Dr. Gibbs, occurring in Paris in June, 1848.

In Mr. Curling's case, like that of his colleague Mr. Adams, the disease was manifested in the presence of a tumour of the thigh, of considerable size, which proved to be a medullary cancer. It was punctured two days after admission, and about thirty ounces of fluid were evacuated, being principally blood, the first twenty ounces possessing a dark colour. Subsequently to this, the growth of the tumour rapidly increased, so that measures of an urgent character were demanded, and an anxious consultation with Mr. Luke, Mr. Adams, and others of his colleagues, resulted in the performance of disarticulation at the hip-joint. It will be observed that the anterior flap was not made first in the present instance, as the tumour would necessarily have been transfixed, and the operation thus rendered complicated and somewhat hazardous. The posterior flap was therefore first made, and then the anterior, whilst the femoral artery was carefully compressed in the groin, and very little blood was lost. The patient looked rather pale and delicate for a few days afterwards, but owing to an otherwise good constitution, conjoined with extreme quiet and care in a small ward, the stump rapidly healed by first intention, and not a single untoward symptom showed itself. We had an opportunity several times of seeing Mr. Curling dress the stump, and were struck with the healthy condition of the patient, notwithstanding the loss of such an extensive part of her body. Her progress since leaving the hospital has been satisfactory, and no return of the disease has taken place, although there was an œdematous swelling of the other foot and leg, which has to some extent subsided. The evidence afforded by the naked eye, as well as the microscope, clearly pointed out the nature of the disease, but as there is no hereditary tendency, we will hope that its reappearance, should it occur, may be remote.

Mary Ann G——, aged forty, married, residing at Speen, near Newbury, Berks; admitted March 4th, 1856. She states that her father and mother died from old age, being of the ages of eighty-five and eighty-four; she has been married many years, and has had five children. Her occupation is that of a schoolmistress, and she has always had good health during the last twenty-four years; before that, she was rather delicate. She has only one sister, who is of sound constitution. About twenty-six years ago, the patient suffered from a contusion over the knee, and was cupped. She has had no illness since then until last August, when she first noticed a small lump upon the right thigh, which she thought to depend upon rheumatism, and various applications were made to it, but without any effect. The swelling continued steadily to enlarge, without any pain. She stated that a fortnight before her admission, the surgeon under whose care she was plunged a grooved needle into the tumour, and drew off about a cupful of blood. Upon examination, a tumour of considerable size was found to occupy the upper part of the thigh, chiefly in front and towards the outside, extending nearly as high up as the groin. It had an elastic, fluctuating feel, was tender, and the seat of some pain. She was put upon generous diet and wine, and ordered tonic medicines, with half a grain of morphine every night.

Two days after admission, Mr. Curling introduced a trocar at the outer part of the tumour, and about thirty ounces of bloody fluid flowed freely. The first twenty ounces were quite dark-coloured, but the last ten which escaped were of a bright colour. Both coagulated on standing. The tumour felt less tense and uneasy after the puncture, but soon regained its former size, and during the three following days it rapidly increased. Her general health was now also very visibly declining.

Mr. Curling, therefore, in consultation with his colleagues, decided that nothing short of amputation at the hip-joint would be of any service. The operation of disarticulation was then performed on the 11th of March, when the patient was under the influence of chloroform. The posterior flap was made first, and three or four small vessels were secured; and then the anterior flap, the femoral artery being compressed in the groin. Not more than four or five ounces of blood were lost altogether. It was quite evident that the operation could not have been done by transfixion, because the knife would have penetrated the tumour and divided it in two, which was obviated by performing the operation as described.

She was then ordered a draught of spirits of sulphuric ether, aromatic spirits of ammonia, and tincture of opium, of each half a drachm, in an ounce of camphor mixture, to be taken immediately; four ounces of wine, milk diet, beef-tea, and two eggs.—Half-past nine P.M.: Slept two hours and a half, and was doing well.

Without giving the details from day to day, it is sufficient to mention that she continued to progress most favourably; the stump healed very quickly by the first intention, the main ligature came away at the usual time, she was discharged from the hospital, and went down to Ramsgate.

Examination of the tumour showed it to be pear-shaped, the base being superior. It was bounded on the inside by the adductor muscles and femoral canal, and on the outside it invaded the vastus externus muscle, which was extended over the growth. It rested on the outer part of the femur, and extended, close to the bone, as high as the great trochanter. There was no distinct capsule, only a slight condensation of the parts immediately surrounding the tumour. It was composed of masses of brain-like matter, intermingled with large coagula, chiefly towards the lower part, and a number of imperfect cysts, some of considerable size, containing a bloody fluid.

The outer and front surface of the upper portion of the middle third of the femur, for about three inches—the part upon which the tumour rested—was very vascular, rough, and granular, and abraded to such an extent as to destroy the rounded outline of the bone. The tumour exhibited the microscopical elements of encephaloid cancer, and some of the masses were undergoing fatty degeneration.

This patient left Ramsgate able to walk on crutches, and returned to her duties as a schoolmistress. An œdematous swelling has since occurred in the other foot and leg. In November, when seen by Mr. Curling, this swelling had partially subsided. He examined the chest, abdomen, and groin, but had not been able to detect any tumour, or to discover any glandular swelling indicative of a return of the disease.

THE VAPOUR OF AMYLENE.

On Saturday last we again saw this substance employed by Dr. Snow, in place of chloroform, at King's College Hospital. It was first given with good effect to a child with a nævus, then to another with hare-lip: in both it seemed to answer very well. In a third case, of plastic operation of the face of a man, although there was some amount of consciousness, complete insensibility to pain was manifest; and when the operation was concluded, which moreover occupied some time, the faculties were very quickly indeed restored, and the man walked to the wards without support, instead of being carried, as after chloroform. The effects of amylene were very fairly tested in this case, and were as satisfactory as could be desired. In a fourth patient—an elderly plethoric female—anæsthesia appeared to be more completely produced than in any of the others, with some slight coma, and, for a very short time, complete unconsciousness. The operation here consisted in the opening of what Mr. Fergusson believed might prove an abscess of the left breast, which had been present for eighteen months. On opening it, however. it proved to be a large cyst, containing serum, but a species of cyst differing from such as are ordinarily met with, inasmuch as it contained in its interior a number of loose tentacles projecting from the lining membrane, as large as marbles, many of them being quite loose. These were easily squeezed out of the wound, and seemed to be masses of decolorized fibrine. Mr. Fergusson observed, that they might possibly be patches of lymph growing from the interior of the cyst. At any rate there was nothing malignant about them, nor any appearance of malignancy about the breast. In all the instances in which Dr. Snow has given the amylene,—the last case being the seventeenth,—in not a single one was there any sickness or vomiting, which, we think, is a decided advantage over the chloroform, although it requires a much larger amount to be used to produce its desired effects. Dr. Snow believes a substance will yet be found that will produce anæsthesia without loss of consciousness, of which he is quite sanguine.

PAINFUL SUBCUTANEOUS TUBERCLE.

We have seen two examples of this affection lately treated by operation, under Mr. Erichsen's care, at University College Hospital. The first at the latter end of November, in a young woman, who suffered the most excruciating pain, referred to a spot over the costal cartilage, to the right of the left breast. Not the slightest relief had been afforded during the four years of its existence. Mr. Erichsen, therefore, cut down upon it, and removed a very small tumour with some adipose tissue, incorporating the minute nervous twig affected. This was followed by complete relief. About the middle of December, he removed a second tumour, the size of a bean, from the sole of the foot of a man, which had been the source of intense pain and misery for some time. Relief was here obtained also, and in both the operation was performed under the influence of chloroform; notwithstanding which, the man was rather restless whilst the growth was being cut out. Extirpation affords the only sensible relief in this form of painful disease.

SEBACEOUS CYST OF THE NECK.

This was a tumour, the size of a pigeon's egg, which was situated at the left side of the neck, at its outer and inferior aspect, which had been growing for sixteen years, in a male. The situation was unusual for this form of tumour. It was removed by Mr. Cæsar Hawkins, at St. George's Hospital, in December, and found to be in a state of suppuration. It had inflamed, and the skin was firmly adherent all around it.

Reviews and Notices of Books.

Diseases of the Stomach and Duodenum. By Charles Evans Reeves, B.A., M.D., &c. pp. 354. London. 1856.

A Few Remarks on the Perforating Ulcer of the Stomach and Bowels. By J. Bower Harrison, M.D., F.R.C.S., &c. pp. 68. London. 1856.

The morbid conditions of the alimentary canal and its appendages have lately received a very considerable share of attention. The works of Budd, Brinton, Jones, and Chambers have pretty fully developed their history, as illustrated by the most recent progress made in physiological chemistry and in the microscopic morbid anatomy of the day. We are of opinion that Dr. Reeves' treatise has appeared rather too late to receive the same amount of attention it might have gained had it arrived a year earlier. We see no valid reason—so far as its contents are concerned—why it might not have done so, as its value mainly depends on its being a critical analysis of the clinical history of gastric affections, as drawn from reports of cases published in the journals, and various works from the time of Baglivi to 1853 or 1854. We have thought that in some of the able treatises we have just mentioned, there has *occasionally* been almost too much chemistry, microscopic anatomy, and of the "physiology of digestion" for practical use at the bedside. Dr. Reeves has erred, on the other hand, in the opposite way, ignoring these matters almost entirely—giving his clinical medicine a phase that it had in the time of Abercrombie, for example. Viewed in this light even, some of his accounts are not drawn in that graphic way which impresses them on the memory. They are often too axiomatic; but this renders them useful for consultation, though not for continuous reading. We read Dr. Harrison's description of perforation of the stomach with much more pleasure, and with quite as much profit, as we did that of Dr. Reeves; and we shall append, for the information of the reader, the following recapitulation of its symptoms, as given by the former writer, whose little work we can well recommend:

> "1st. The suddenness of the inversion and the acute pain and tenderness of the abdomen.
> 2nd. The effect of liquids in aggravating pain.
> 3rd. The effect of change of position in altering the seat of pain.
> 4th. The absence of urgent vomiting or diarrhœa.
> 5th. The comparatively early collapse.
> 6th. The absence of other apparent causes, as hernia, pregnancy, or poison.
> 7th. The existence, generally, of previous chronic dyspepsia."—p. 52.

The case related by the author, which was believed to be, by all the surgeons except Mr. Thorpe, one of hernia (even during the beginning of the autopsy), and which turned out perforating ulceration of the small intestines, is one full of clinical interest and instruction.

Dr. Reeves informs us that he has a work, in two volumes, on "Diseases of the Brain and Spinal Cord," preparing for the press. Are we to have one also on Diseases of the Heart and Lungs? We have no doubt of the author's experience and labours, gained and "passed," he tells us, "in the French and English hospitals, in parochial, dispensary, and private practices" (Introduction); but we would, with all kindness, still recal to his memory the apophthegm—"Was sich in Umgang der Natur und in ihrem Anschauen entwickelt, hat mehr Werth als alles Erdachte oder Erlente. Das allein hat nur wahres Leben d. h. den Geist der Natur, and ist so ewig wahr wie sie."

Egypt; its Climate, Character, and Resources as a Winter Resort; with Appendix of Meteorological Notes. By A. Henry Rhind, F.S.A., &c. Edinburgh: 1851. pp. 151.

This little work may be well recommended to those who, afflicted by disease, but blessed with money, can afford to make a voyage to the Nile in search of health and mental relaxation. It is, in fact, the only record that we can, at the moment, bring to mind, that a patient could be referred to, of observations with reference to the sanative influence of the climate of Egypt. We do not say *scattered remarks* are not to be found in books on Climatology, in reference to the subject; but Mr. Rhind confines himself to this country, and also to it in a sanitary aspect. He also touches upon many domestic and monetary matters highly useful and necessary to those who visit Cairo, Thebes, and Alexandria, and have to engage boats for ascending Egypt's ancient river, or wish to furnish and convert a tomb into a villa at the foot of the Pyramids of Geezeh. The following *resumé* of the author is worth quoting:

> "Nothing I have written will, it is hoped, lead any one to fancy that, according to my notion, every invalid has only to spend a winter or two on the Nile to regain his former vigour. To look throughout the compass of the world for any conditions of atmosphere possessing a virtue so infallible, would be a pursuit not less vain than to search for the rejuvenating spring of the fairy tale, or renew the attempts of mediæval alchemy to eliminate an *elixir vitæ*. The sickle is not to be turned aside with such unvarying success; but thus much, and thus much only, can be said, that whatever benefit is to be expected from climate in certain forms of disease is, in all probability, more likely to be met with in Egypt than elsewhere."—p. 121.

The Complete Handbook of Obstetric Surgery. By Charles Clay, M.D., Manchester, &c. London: Renshaw. 1856.

We object to that expression in the title of this work which describes it as "Complete." The word is very much too absolute to be applied to so incomplete a subject as Obstetric Surgery, and especially overstrained when applied to this particular book.

The arrangement of the subjects in alphabetical order, obviating the necessity of reference to an index, has its advantages. It enables the student and junior practitioner to turn at once to any subject in which he may at the moment be at fault. It is, however, not favourable to clearness or connected development of a subject. But we have no right to quarrel with the author for not accomplishing what he did not design. He meant to make a handbook and not a scientific treatise. It is as to its pretensions to be considered a practical guide that we must examine his work.

The directions for many obstetric operations are given with sufficient clearness, although with too great brevity to be trusted to by the student, who will certainly feel the necessity of reference to larger treatises, in order to satisfy his mind. We have marked several directions as being of very questionable propriety, and some of these it is desirable to point out as a warning to those who might be misled by authority.

At page 46 we meet with the following too absolute injunction. In the case of labour complicated and obstructed by stone in the bladder, "Lithotomy ought not to be entertained at the time of accouchement, if by any possibility it can be avoided—*by craniotomy*, or otherwise."

He extols the vectis beyond its merits. His directions would lead to its frequent employment. He insists that the vectis has power, and may be applied, both as a lever and as a tractor.

Breech-presentation.—"*Treatment: Announce a cross-birth*"! Would it not be better to tell the truth?

Turning.—There is considerable confusion in the treatment of this subject. It is *twice* described—once under "Turning," and again under "Version." The two descriptions do not always agree, and the best method, that of bringing down *one knee*, so strongly enforced by Dr. Simpson, is not described.

On the subject of ovariotomy, Dr. Clay is an authority—at least if experience in the operation is a title to that distinction. His operations are so numerous that he has given up vulgar methods of record, and reckons his performances by the ton! Dr. Clay has removed 2000 lbs. in weight of ovarian tumours! It does not appear that any of the ordinary contra-indications to ablation deter him. Adhesions of the cyst to the intestines and abdominal parietes by fibrous bands, so much dreaded by some, are no impediments to Dr. Clay, "Some of the very worst cases of adhesions he ever had recovered as well and as rapidly as any other." The following summary of Dr. Clay's experience in ovariotomy is interesting: He has operated 71 times: 49 cases recovered, 22 died.

"Taking them in groups as they occurred—

The first	20 cases,	8 died,	12 recovered.
The second	20 "	6 "	14 "
The last	31 "	8 "	23 "

The mortality, Dr. Clay remarks, has thus gradually lessened from 1 in 2½ to 1 in 4. The author, it is well known, advocated the large incision from umbilicus to pubes, and supposing the operation itself to be a legitimate one, he is perhaps right. But a method of treatment is now under trial—one not mentioned in this book—which promises so large a measure of success, with so little comparative danger to life, that we do not hesitate to express a strong opinion, that the practice of ovariotomy ought to be absolutely suspended until a definitive judgment be arrived at as to its merits and the extent of its application. It is scarcely necessary to say that we refer to the treatment by iodine injections of the cyst.

Under the head "Evolution," Dr. Clay utters opinions opposed to fact. He says, "But spontaneous *evolution*, or the substitution of another part for the one originally presenting, under these precise circumstances, is not only *absurd, but altogether impossible.* (!) That Dr. Denman was really deceived or misunderstood the point in dispute is certain." There is, at least, one thing as absurd as "spontaneous evolution," and that is, the presumption of Dr. Clay in accusing Dr. Denman of absurdity.

We are sorry we cannot commend the style. Whether through carelessness in correcting the proofs, or from other causes, several gross blemishes offend the eye. "Guillemeau" (p. 45) is spelt "Gillimeau," so as to leave one in doubt whether it be really the illustrious French obstetrician who is referred to. At page 103, we read, "*per viâ naturales*;" at page 265, "*per vagina or anus.*" Such misplaced preference for the ablative and nominative cases is not scholarlike.

We wish we could temper our criticism with some general expression of commendation; but we feel compelled to say that the book, as a whole, as well as in many of its details, is not adapted to give sound instruction to the student, or to lend material aid to the junior practitioner.

The Prostate Gland, and its Enlargement in Old Age. By Decimus Hodgson, M.D. Edinb., M.R.C.S. Eng., Demonstrator of Anatomy in the University of Glasgow. London: John Churchill. 1856.

The fact that the author received a gold medal for this well-written monograph, at his graduation at the University of Edinburgh, is, perhaps, a sufficient acknowledgment of its merits. An acquaintance, however, with its pages will at once satisfy the reader of its practical utility; and, as the latest work on the subject that has emanated from the press, it is the more worthy of perusal.

The anatomical description of the healthy prostate, with its important relations, is clearly and minutely described. The author has, by numerous dissections, endeavoured to establish each individual point of interest in connexion with the anatomy and physiology of the gland, and in more points than one he differs with some of the most recent writers on the subject. With regard to the disposition of the fibres of the external layer of the muscular coat of the bladder, the author differs from the dissections of Mr. Hancock; for he states:—

> "I must admit that I have been unable to trace the external layer of the muscular coat of the bladder on the outside of the prostate, in the manner mentioned by Mr. Hancock. It appears to me that they terminate on the under surface of the bladder, in the submucous tissue, as already described."—p. 27.

In the section devoted to the consideration of "Healthy Micturition," the author has reason to dispute the opinions of well-known anatomists regarding the function of the circular fibres of the bladder behind the prostate:—

> "My own view is, that these particular fibres and those of the rest of the urethra are perfectly quiescent during the intervals of micturition, in the same manner as those of the bladder itself; that the prostatic urethra and the neck of the bladder, with the rest of the canal, are kept closed during the intervals of micturition by means of the elastic tissue in their walls, quite in the same manner as the bladder is kept in apposition with its contained urine; and that the muscular fibres of the bladder and urethra are simply employed in expelling the urine at intervals. There can be no doubt that the longitudinal mucous folds of the prostatic urethra, with the verumontanum, fit into each other in such a manner as to render the escape of urine through the urethra impossible."

The section set apart for the consideration of "Hypertrophy of the Prostate" displays an intimate acquaintance with the morbid phenomena to which such a condition gives rise, particularly the consideration of the abnormal enlargement of the third or middle lobe in many instances.

The course and symptoms of the disease are described in a concise and clear manner. In some cases of enlargement of the gland from inflammation, by which obstruction has been offered to the flow of urine,

> "I have," says the author, "sometimes found, in enlarged prostates, a delicate layer of lymph on the floor of the prostatic urethra, which may probably be referred to an inflammatory attack."

In the remaining portion of the volume, the treatment of enlarged prostate, with its various complications and difficulties, is freely discussed. The remarks upon the passing of silver and elastic instruments into the bladder are good and practical.

The natural and morbid appearance of the prostate and other organs are admirably illustrated by numerous lithographic engravings, which render the volume highly acceptable, not only to the student, but also to the practitioner, and it is with confidence we recommend a perusal of its pages.

Outlines of Ophthalmology. Third Edition. To which is prefixed an Introductory Discourse, &c. By William Mackenzie, M.D., Surgeon-Oculist in Scotland, in Ordinary, to her Majesty, &c., &c. London: Longman & Co. 1856, pp. 72.

Defects of Sight; their Nature, Causes, Prevention, and General Management. By T. Wharton Jones, F.R.S., F.R.C.S., Professor of Ophthalmic Medicine and Surgery in University College, London, &c., &c. London: John Churchill, pp. 149.

The first of these two volumes consists apparently of what may be considered a syllabus of the author's lectures. Dr. Mackenzie's reputation as an oculist is too well established to require any corroborative testimony from us. We may observe, however, that if the lectures delivered in Glasgow University at all fulfil the promise of the syllabus, they must as nearly exhaust the subject of ophthalmology as is possible. The prefixed discourse is judicious. The advice contained in the following passage should be laid to heart, not merely by all ophthalmic practitioners, but by all engaged in the practice of medicine or surgery.

> "Another point on which success in this department of medical practice very much depends is the doing of whatever is done to the very best of one's ability—doing nothing slovenly, nothing carelessly, nothing at random—prescribing no remedy without a clear and reasonable object in view, applying every remedy with the utmost care, and watching the effect of every application with diligence."

We cannot commend Mr. Jones's work. To whom is it addressed—the profession or the public? If to the former, it is unnecessary, by reason of the substantial works of Mr. Jones himself and others already before the profession; and if to the public, we think the book extremely objectionable, for the following reasons: it contains too much and too little; there is too much ophthalmic pathology, medicine, and surgery, and too little anatomy, physiology, optics, and hygiene. In the preface, Mr. Jones professes to have for his object the laying down of some principles to guide the people in the care and preservation of their sight. To this end, he says he has "thrown together" certain observations, &c. They certainly are "thrown together." If they had been more numerous and systematic, the book would have been more useful to general readers and more creditable to the author. We should like to know of what use, to non-professional persons, it is to address to them a disquisition on the relative merits of the operations for cataract by displacement, extraction, and division! The only effect we can conceive of such a proceeding is to imbue the mind of the innocent reader with a profound conviction of the learning and abilities of the author, and in all probability such reader will repair to Mr. Wharton Jones whenever he needs the services of an oculist.

We entertain a profound horror of, and rooted dislike to, books which occupy the debatable ground of the volume in question. Let the public have anatomy, physiology, natural philosophy, and hygienics by all means; they will really benefit by a knowledge of the subjects; but in the name of professional dignity we do protest against writing at the public in these semi-medical two-and-sixpenny books. They do not teach what is useful, and all the physic and surgery they contain is only so much of advertisement, besides being incomprehensible to the reader. While making these remarks, we desire also to record our dislike to the manner of naming medical works which is creeping into use. It may be very well for an ephemeral *littérateur* to call his book "Pera to Piccadilly," or any short alliterative title which will fix itself readily upon the memory; but for scientific writers to try any such schemes is most unbecoming. "Pain after Pudding" is not a professional style of nomenclature, and we should not recommend it or any similar title. Really we almost expected to see "Cakes and Constipation," or "Beer and Bile," by ——, F.R.S., &c., on our table some day. Such violations of good taste shall, however, meet with their deserts.

Hygienic Medical and Surgical Hints for Young Officers of the Royal and of the Merchant Navy. By W. M. Saunders, M.D., R. N. pp. 96. London: Churchill. 1856.

The author, having felt the want of some concise source of guidance when first entering on his duties, within the tropics, as an assistant-surgeon, in 1842, and again when in the more responsible position of surgeon in later years, conceives the same deficiency may be experienced by others holding a like position. He has therefore put together a series of notes, taken from the works of Blane, Lind, Wilson, Bryson, Johnson, and others, chiefly relating to such hygienic precautions as should be adopted by "young naval officers......for the preservation of their own health and that of those who may be under their command in course of years."

"We see," remarks Sir Gilbert Blane, "indeed, infinite pains taken to prevent cordage from rotting and arms from rusting, but, however precious these may be, as the necessary implements of war, it will not be disputed that human hands are still more so; yet, though there is the additional inducement of humanity to watch over the health of the men, I do not think that this, in general, is studied with a degree of attention equal to what is bestowed on some inanimate objects."

Dr. Saunders's *brochure* is, no doubt, full of useful and sound information, but we think may, in the future edition, be considerably improved. We would, *inter alia*, advise the whole subject of "Asphyxia" to be re-considered, particularly in reference to the views and method of treatment promulgated by our valued and respected correspondent, Dr. Marshall Hall; and we think *naval* officers might not care to miss such an aphorism as the following:—

"CAUTIONS TO BE OBSERVED IN A THUNDERSTORM.—Never take shelter under a tree, haystack, wall, or hedge, but keep in the middle of a field or road, especially if raining."—p. 65.

Medical Despotism, or Official Injustice. By the late Physician to the Crimean Railway Expedition. pp. 28. London: Bosworth. 1856.

OUR opinion being sought by David M'Cormack Reed, the late surgeon of the 2nd Regiment of Beatson's Irregular Cavalry, on the question discussed in the pamphlet before us, we have no hesitation in giving it—viz., that the "Deputy Inspector-General" (Dr. Cockburn) was in duty bound to admonish Dr. Reed to practise a scientific and rational system of medicine, instead of homœopathy, and that the defence of Dr. Reed, of which the following extract indicates the nature, is insufficient:

"I consider any attempt on the part of the Deputy Inspector-General to interfere with the freedom of my practice as a regimental surgeon, or as an experienced civil practitioner, employed for a time in this corps, is altogether uncalled for, and is quite opposed to the spirit of liberal inquiry which ought to characterize the acts of all enlightened practitioners of medicine and surgery in the present day."—p. 15.

Secondly, we are of opinion that, as regards Dr. Reed's refusal to obey Staff-Surgeon Kalazdy, the following admonition of General Smith was not too severe:—

"Dr. Reed—I make great allowances for you as a civil practitioner of medicine; but in a military point of view, you are wrong; you should have obeyed first, and complained afterwards, if you thought yourself aggrieved. It is my duty to advise you to apologise for the offence, and to promise in future to obey all the lawful orders of your superior officers, or I shall have to report you for insubordinate conduct."—p. 3.

Thirdly, we are of opinion, considering the reply and after behaviour of Dr. Reed, that Lieutenant-General Vivian, commanding, was justified, on the representation of Major-General Smith, in ordering Dr. Reed to be removed from the service on account of his "insubordinate and litigious spirit."—p. 6.

Medical Annotations.

"Ne quid nimis."

THE speculators on the doctrine of chances have a wide field before them in the explanation of coincidences; why "sorrows come not as single spies but in battalions;" why, if a fraudulent banker be detected, forthwith (*Paulo* canamus majores) there follows a long list of exposures of similar evil-doers. There scarcely ever occurs a case of deep interest to the medical jurist, but several of equal importance claim our notice. Thus it would be difficult to select cases presenting features of greater and more diversified interest than four which have lately occurred within a very short period; the important features of which we here aggregately present:—

In one which recently occurred in London, a woman had poisoned herself with a large dose of strychnia. She was seen in good health at four P.M., and at six was found dead. There was no doubt as to the poison or the largeness of the dose, yet there were no signs of any tetanic convulsions, nor any marks to indicate that they had occurred. She was found in "an easy and recumbent position on the floor," the only thing peculiar being an unusual rigidity in the fingers. The *vexata questio* as to the precise poisonous effects of strychnia in different doses, is too fresh in the minds of our readers to need any comment upon the importance of this case.

A rare instance of accidental poisoning recently occurred in Ireland. In the vicinity of Clifden, a family of six persons, living in great destitution, were poisoned, and three of them died, from partaking of some partly-cured horse-mackerel. It was not determined that the fish were the *caranx trachurus*, the true horse-mackerel (which, though of very inferior quality, are salted in large quantities for winter consumption, on the coast of Cornwall), or one of the poisonous varieties of scomber. It was proved that they were in a state unfit for human food before being salted; but they were taken from a pile of similar fish, of which others partook without suffering any ill effects. Fish-poisoning (as distinct from that of muscles, &c.) is very rare in Europe. It is little understood, even where it occurs more frequently. Thus some fish, as the yellow-billed sprat (Thrissa) at St. Kitt's, are only injurious at certain periods of the year; others (as the barracouta) become poisonous on the advent of the least decomposition; may be good at dinner, and poisonous at tea-time. In the case above-mentioned, the symptoms were, intense thirst, vomiting, and prostration, though one of the family who had partaken of the fish and had not vomited, recovered. The deaths occurred from one to eight days after eating the fish. The verdict returned was peculiar, its logical sequence being difficult to follow—"Died by the visitation of God, after eating some mackerel which were not sufficiently cured."

A third case of great interest in a medico-legal point of view was made the occasion of a just and formally-expressed censure by the coroner's jury on "the interference of magistrates in controlling the discretion of coroners, which in this case nearly caused a miscarriage of the course of justice." The inquest was held at Cheltenham on the exhumed body of a young woman, who died from exhaustion after delivery. The previous labour was concealed from the medical practitioner called in to attend her, and she was buried without the fact of her previous delivery being discovered until after her interment: it was proved that she died from neglect during her confinement, and loss of blood, and that the child had also perished by wilful design or want of care. So uncalled-for and impertinent had been the interference of the Midases who hold rule in Gloucestershire, that the jury spoke with great indignation of their conduct, as "calculated to diminish the safe-guard which the full discharge of the duties of the ancient office of coroner had thrown around the lives of the people of this country."

A melancholy instance of the necessity for care in dispensing drugs has been afforded by a recent case of poisoning at Brompton. A boy, who was sent to a druggist's for a dose of castor-oil, received therewith a quantity of hydrocyanic acid, sufficient to cause death. This case has still to be adjudicated in the Criminal Court, where the assistant who supplied the poison will be tried for manslaughter. It affords another example of the urgent necessity there is for requiring some additional safeguard with respect to the sale of drugs. This should be especially provided for in the "Sale of Poisons" Bill to be introduced next session. But the recent case points rather to the difficulty of the subject than to its practical solution.

Dr. Heurstin, of Tellin, near Rochfort, the patriarch of the profession in Belgium, died recently at the advanced age of ninety-four years. For more than sixty years he has been the kindest friend of the poor of Ardennes. During this time he has exercised amongst them, with unselfish devotion, the arduous duties of his profession, barren of earthly reward from the extreme poverty of the district. Such a life as his might well serve for a commentary on the text of Cicero, "Ad Deos nullâ re proprius accedunt homines, quam salutem hominibus dando."

Not long ago Dr. Routh read before the Medical Society of London, and subsequently published, an elaborate dissertation on "Fæcal Fermentation." The subject was unsavoury, but its importance obvious. To this source he traced the origin of many fevers, and, amongst others, that of Croydon in 1853. The latter statement seems to have thrown that neighbourhood into another fever—of printing, not typhoid, type. Its crisis was determined by a brisk reply from the pen of Dr. Carpenter, of Croydon, formally questioning the correctness of the inferences contained in the paper. In his rejoinder to these criticisms, Dr. Routh pointed out so many misquotations, &c., on the part of his critic, as to call forth an apologetic acknowledgment from Dr. Carpenter. And here the matter should have rested. We regret, however, to notice that the original attack has been injudiciously reprinted, and widely circulated, without any notice of Dr. Routh's subsequent objections and corrections, or any allusion to the admitted errors contained in it. This proceeding was unjust, as calculated to mislead all unacquainted with the correspondence. It was unphilosophical, for the dissemination of admitted error cannot be otherwise. Whether in consequence of this correspondence or not, there lately came to the Sanitary Board of Croydon a request from the Board of Health, to be supplied with particulars as to the health of the town. This elicited the fact that no Officer of Health for that district has yet been appointed—an unpardonable oversight on the part of the inhabitants, considering the recent occurrence of an epidemic amongst them, and the grave doubts still existing as to whether the causes which gave rise to it are entirely subdued. The reports returned by eleven of the medical men state that the health of the town has much improved since 1853. This is in accordance with the common rule observed after severe epidemics, which weed out many weakly persons. It would apply equally to any undrained place where an epidemic had occurred, as well as to Croydon.

When Lord Panmure appealed to the late President of the College of Physicians for assistance in selecting an auxiliary corps of civil medical officers to attend the soldiers in the last campaign, this was understood as a virtual acknowledgment that the army medical "system" had broken down. The individual exertions of the army surgeons had been almost superhuman, and many fell martyrs to their zeal. But individual efforts could avail little against a system that had made no adequate previous preparations to meet the exigencies of a campaign; and continued to spin out red-tape platitudes whilst the wounded shrieked for help and the fainting cried for food.

We have no wish to advert to the reasons which took this high mission of selecting supplemental aid out of the hands of the corporate authorities. Certainly, no better selection could have been made (in the majority of cases) than of those gentlemen who left their professional duties in London to undertake the charge of the hospitals at Kadikoi and Smyrna. We are only disappointed that no conjoint report of their labours has yet been announced, as the few scattered papers hitherto published cannot be supposed to adequately represent their observations or record their experiences. It is gratifying, however, to learn that the Medical Society established at Constantinople during the war by the exertions of Dr. Pincoffs, one of the civil physicians to

Scutari Hospital, presents every prospect of success. There are already forty resident members, and the Minister of Foreign Affairs has undertaken to procure the Sultan's permission that the Society shall adopt the rather formidable name of "Djemieh Thebiei Chabane," which, being translated, means "the Imperial Society of Medicine."

To Dr. Pincoffs we are also indebted for a very sensible proposition to establish military sanataria at Bath and at other places famous for their natural springs, after the plan pursued by the French Government at Vichy and elsewhere. We fully agree with Dr. Pincoffs that the mineral springs of Britain have as yet been very imperfectly investigated. The results of a thorough inquiry into the subject would prove eminently serviceable to the profession.

It will be seen by the report of the Pathological Society that it is proposed to present Dr. Quain with a testimonial on his retirement from office. Dr. Quain has filled the position of secretary for some years, and has edited, with great ability, five volumes of the Society's "Transactions." Only those who have been taught by experience know how great is the labour entailed by a task like that which Dr. Quain has so ably accomplished, and can justly appreciate his high claims to such a grateful and graceful acknowledgment of his services.

Modern philanthropy pursues a precisely opposite course to that advised by Seneca, "Irascere interfectori sed miserere interfecti." The murderer is immortalized in wax, his features made familiar by portraits in illustrated papers, or likenesses separately sold, whilst every incident of his life is raked up to gratify morbid curiosity. In the meantime the murdered victim goes to oblivion in a pauper coffin, or, if it be a poor creature driven by distress or despair to the committal of self-murder, is ordered by law to be shovelled into a hole at midnight, in classical remembrance that Nemesis was the daughter of Nox.

Popular feeling is now so far in advance of the law as regards humanity, that all the horrors of the mode of burial prescribed for the suicide are rarely perpetrated. The body is usually interred in consecrated ground, though without the rites of Christian burial. Even this denial is, we fear, too often arbitrarily exercised. Few would be disposed to consider it a failing did virtue more frequently lean to mercy's side. In the Exeter papers is an account of an inquest recently held on a wretched girl, who, under the conjoined influence of drink and jealousy, drowned herself; having previously expressed an intention to do so. The evidence proved that she was sensible at the time of committing the act, though she had been drinking beforehand. A verdict of *felo-de se* was returned, and she was interred, without burial rites, at midnight. The point in this case to which we would particularly direct attention is, that the girl was barely fifteen years old. In the eye of the law she was not capable of being entrusted with the smallest legacy. Had it been a question of money she would have been considered an infant, and responsibility would have been withheld from her; yet it was assumed that, with an undeveloped body and mind subjugated by drink and jealousy, she still retained sufficient judgment and control over her actions to justify a verdict of *felo-de-se*, and a deprival of Christian burial.

We doubt whether the whole world could produce despotism more absolute than that exercised by the great railway companies over the British public. Not only are they "monarchs of all they survey," but they claim a "right there is none to dispute," of directly setting at defiance every principle of honesty and justice, and behaving in a manner that would disgrace any private individual. They appoint the hours of travelling, and keep them or not as best pleases their omnipotence. They specially maintain, in a series of by-laws, their right to slay, smash, mutilate, or cripple their unlucky passengers, and take care that this right shall not fall into abeyance for want of exercise. They utterly ignore all responsibility for the occurrence of these little accidents. But to show they are not altogether constituted of iron and brass, they occasionally deign to remember that "mercy is the mighty's jewel," and condescend to afford assistance to an unfortunate victim wounded between two hostile buffers. But the railway reading of the parable of the good Samaritan is somewhat peculiar. According to their version, that benevolent man robbed the first passer-by, and bestowed the booty thus obtained on him who had been wounded by the thieves. When, therefore, a railway accident occurs, an official is hastily dispatched for the nearest doctor, who hastens, all eagerness, to relieve the sufferer. He binds up his wounds, sets his crushed limbs, attends him perhaps for months, leaves him at last quite cured, and sends in his account to the railway company. The answer he receives is something after this fashion: "Doctor, you are really an excellent man; you have done your duty in a most skilful and praiseworthy manner. We regret, however, that, as a company, we cannot hold ourselves responsible for your remuneration, although, if merely private individuals, we should be delighted to do so."

If the practitioner thereupon fall into a delusion greater even than that of confiding in the honour of a railway company, and believe that "the law will do him justice," he only renders his case still worse. If a jury of twelve honest men give a verdict in his favour, the case is immediately removed into a higher court,—where justice sits more thickly blindfolded. There he learns that the jury know nothing about the law (how should they, being honest men?)—and that a company is responsible for nothing without a written contract.

We have not built up any imaginary grievance, but have simply followed the outlines of two cases that lately occurred—Cox *v.* Midland Railway Company, and Robson *v.* Durham Railway Company. In each of these a surgeon was the plaintiff, and claimed the amount of his bill for persons damaged by railway accidents. In the first case, the jury gave a verdict for the plaintiff, and a superior court reversed their decision. In the second case, notwithstanding that the defendant's counsel cited the preceding instance to prove the non-responsibility of the company, the jury still adhered to the common-sense view of the case, and returned a verdict for the plaintiff. It seems, then, that the law gives no redress to the surgeon under these circumstances. Who, therefore, can wonder if the opinion expressed by a witness at one of the above trials be acted on—"that if Railway companies are so lax about paying the doctors, they will soon be unable to get a doctor at all?"

It is only where an individual has rendered great and recognised services to the public, or to any important portion of it, that the custom which now too commonly prevails of collecting subscriptions for a testimonial is at all justifiable. The indiscriminate and ill-judged demonstrations of this kind on behalf of persons possessing no exceeding claims to the distinction have, we fear, tended to diminish their value in the estimation of those who really deserve our gratitude and esteem. Can anything more ridiculous be imagined than the presentation of jewelled swords to dubious Crimean heroes, whilst no token of our gratitude has been shown towards *The Times'* Correspondent or those two truth-speaking officers who boldly exposed the iniquities of that terrible campaign? Is there a greater conceivable absurdity than that of appealing to the medical profession, without any earthly reason, to subscribe towards testimonials for individuals who have made reasonably good use of their not supereminent abilities. We make these remarks in no censorious spirit. We wish the presentation of testimonials had been less commonplace occurrences, that the claims of Dr. Livingstone to such an expression of our national gratitude might have more prominently attracted attention. However, the feeling evinced by the crowded meeting at the Mansion House on Monday last could not be misinterpreted. With genuine honesty the African wanderer was invited to attend, and was fairly told to his face that the good services which he had rendered towards God and towards man had made the whole nation thankful to Heaven for his preservation amid so many sufferings and privations, and desirous of proving its gratitude to him personally. Accordingly it was determined "to originate a pecuniary tribute as an expression of admiration and gratitude for his disinterested and self-denying labours in the cause of science and philanthropy." A committee was forthwith appointed to carry into effect the determination of the meeting, and the Lord Mayor was appointed treasurer. Upwards of £400 was subscribed in the room.

The Nottingham Medico-Chirurgical Society has recently determined, at an extraordinary general meeting and after considerable debate, to occasionally include in their discussions questions of medical policy and medical ethics. So far as consideration of these questions affords an honourable court of appeal in cases of professional dispute, the innovation is praiseworthy. It will, however, require the most careful management to avoid the occurrence of personal disputes or the introduction of political discussions.

This change owed its origin to the rather injudicious conduct of some resident members of the profession, who weakly certified to the proficiency of a corn-cutter. "The man was poor, and humbly begged a line." Having obtained the testimonials, he of course advertised them in the public papers, and so imposed upon the public after the manner of his tribe. It is but just to state that, at the meeting of the Society to consider this unwise step on the part of some of its members, several of those who had erred expressed their sincere regret at having been imposed on by this pretender. It seems that a gang of corn-cutters of his class are now going the rounds of the midland counties, whose great object, on settling in any locality, is to obtain and make use of the testimonials from resident medical men.

The town-council of Edinburgh might justly oppose the application to their town of the title of "Modern Athens." The great men of the city of Cecrops were usually banished, murdered, or "done to death by slanderous tongues." In the capital of the north, those of whom they have reason to be proud are aided and tended with a delicacy and good feeling which does honour to Scotland. It was only by the letter from Dr. Alison, acknowledging the grant voted by the town-council on his retirement, that we learnt it was this body which urged on Government the propriety of granting the annuity lately conferred on Dr. Alison. In commenting on this graceful and touching letter, the Provost hinted his anticipations that the very paltry sum granted by Government would be increased. We are glad to announce that the health of Dr. Alison is somewhat improved, and that he expresses a hope "still to have it in his power to do something that may render his experience, both as a teacher and practitioner of medicine, of advantage to science and to mankind."

Mr. Charles Guthrie has resigned the office of surgeon to the Westminster Hospital. Ill health has compelled him to retire. Long has the name of Guthrie been associated with that institution; and it is not without a feeling of regret that we announce the retirement of the last representative of that family from the institution.

Mr. Holthouse, the senior assistant-surgeon, succeeds of course to the office of surgeon. It is probable that the office of assistant-surgeon will be filled by Mr. Power.

NOTWITHSTANDING the existence of that great social scapegoat, "Nobody," who seems specially provided to bear the responsibility of railway accidents and cases of poisoning, we incline to the opinion that it would conduce to the benefit of society if these little accidents were occasionally brought home to a punishable somebody, on whom our just vengeance might be wreaked. In the majority of cases of poisoning, it cannot be doubted that the crime may be traced to the carelessness or ignorance of the vendor of the poison. Carelessness will, we trust, be obviated by an increase in the attainments and responsibility of those who sell drugs; that we may no more hear of a wretched desperate woman being served, as a matter of course, with the pennyworths of laudanum which help to fill the bottle that will work her death. But little attention has hitherto been vouchsafed to the amount of poisoning that annually occurs from sheer ignorance—the ignorance of those vendors of deleterious substances who supply them for use in trade, or for domestic purposes; and retail them with the same *nonchalance* that they would sell bread and cheese, or other wholesome comestibles. There seems at present no prospect of being required to know better. The druggist is to be subjected to a course of high training, lest he err in preparing a prescription; whilst the grocer, the oilman, and the painter's colour-maker may, unchecked, supply the deadliest poisons, and is no more expected or required to have any moral perception of what he is doing than an idiotic jelly-fish.

It is no uncommon thing for an oilman to supply such poisons as sulphuric, hydrochloric, and nitric acids to purchasers in their own bottles, without taking the trouble to affix a "poison" label; and the result not unfrequently resembles that which lately occurred in the practice of a gentleman residing in a populous district of London, from whom we received the particulars. A little girl under his care had been for some time taking a colourless quinine mixture. The servant selected one of the emptied bottles to procure some "scouring fluid," wherewith to cleanse her fire irons, brasses, &c. An oilman supplied her with Vitriol, without any label affixed to the bottle, without any caution as to its poisonous nature; and so it happened that the mother, from this unlabelled bottle, poured out a dose of the clear liquid for her child in place of the accustomed medicine. The child luckily did not die, despite the laxity of our law concerning poisons, despite the broad-cast method of dispensing poisons adopted by the oilman. Had she perished from gastro-enteritis, or died miserably from stricture of the œsophagus, of course nobody would, again, have been to blame, for who could expect an oilman's apprentice to appreciate the difference between olive oil and oil of vitriol, or between Epsom salts and spirits of salts. It is rumoured that Mr. Cowper has in preparation for the coming Session a Bill to regulate the sale of poisons. We trust that he will extend its provisions to prevent the above-mentioned evils.

A REVIEW of some recent poems, &c., from the pen of one of our most admired writers, Mr. Proctor,—better known as Barry Cornwall,—lately appeared in the *Athenæum*. The critic, his poetic taste overwhelming even his reverence for parochial authorities, quoted the poem which we append. Though he only implied praise, and did not expressly allude to the stinging truths with which the poem is fraught, yet he has fallen under the scourge of the relieving officer of Eton. This parochial Rhadamanthus has written a letter representing relieving officers generally as a peculiarly sainted and philanthropic race of beings, brimming over with the milk of human kindness. He accordingly rates our able critical contemporary in "good set terms" for inserting the poem.

As a thin-skinned relieving officer is rather a curiosity, we trust the guardians of Eton Union will carefully regard the susceptibilities of their subordinate, and keep from him all those newspaper reports which, unfortunately, bear witness, from time to time, of the truth of the allegations contained in the poem. The relieving officers will doubtless present their advocate with a testimonial for thus taking up the cudgels in their defence—something neat and appropriate, and of the brightest brass.

THE PARISH DOCTOR.

I travel by day, I travel by night,
In the blistering sun, in the drenching rain;
And my only pleasure, in dark or light,
Is to help the poor, in pain.

The Parish magnificoes pay me—what?
Were it only the money, I would not roam,
But enjoy the little that I have got
At my own fireside, at home.

But hunger and thirst, and pain and woe
Entice me on; and they pay me well,
When I beat down the devil Disease, you know—
'Tis for that my old age I sell:

I give up my comfort, my crusty wine,
My slippers, my books, and my easy chair,
And go where the paupers starve and pine,
With help. But for this, I swear,

I would spit on the fat, false, bloated men
Who strut on the vestry floor,
And toss 'em their twenty pounds again,
That they squeeze from the parish poor.

Last night,—O God! what a night of cold,
With the wind and stinging hail!
What a night for a lamb that had left the fold,
And had wandered, weak and pale!

Yet there she was,—on the midnight thrown
By the rascal that bars the gate,
And the lying relieving officer (known
For relieving—the parish rate!)

These knaves, they are high in their masters' books,
Have a sum upon which they draw
To keep up their credit, tho' each one looks
To be sure he's within the law.

But gentleness, kindness, love—that lend
To the gifts of the heart a grace,
They reach not the pauper that has no friend,
They suit not the guardian's place.

Their duty is known,—to keep down the rate
And the poor within proper bounds,
And to pay (that he may not be too elate)
The doctor with—*twenty pounds!*

Medical Jurisprudence.

INQUESTS AND MEDICAL TRIALS.

POISONING BY ESSENTIAL OIL OF BITTER ALMONDS, EXPERIMENTS ON ANIMALS.

The numerous deaths, suicidal and otherwise, that have occurred from the use of the commercial oil of bitter almonds, which is contaminated usually with a considerable amount of prussic acid, have imperatively called for an earnest demand that the Legislature should interfere to check the sale of the article in question, unless it be divested of its deleterious ingredient. This is readily effected; several manufacturers actually purify the essential oil of bitter almonds so as to render it perfectly innocuous, and thus improved, it may be obtained in shops as well as the ordinary and injurious article. It is indeed found stated in some old treatises on materia medica that the essential oil of bitter almonds (or hydruret of benzoyle), thus purified, is itself poisonous; and the statement was repeated by a writer in *The Times* of November 24th last. In order to ascertain the truth by a personal examination, some scientific gentlemen were commissioned by the Editor of The Lancet to conduct and witness certain experiments on animals at the establishment of Mr. Langdale, of 72, Hatton-garden, who was one of the first manufacturers of the purified essential oil of bitter almonds. In the presence, therefore, of several other gentlemen, some investigations were entered upon by this commission on Wednesday, Nov. 26th last, with results which we proceed to describe. The animals experimented upon were a dog, a cat, and four rats. The greatest care was taken to secure perfect accuracy in the mode of performing the experiments, and in the observations made.

Experiment 1.—A young, short-limbed, and strong shepherd's dog, was held whilst a drachm of Mr. Langdale's *purified* essential oil of almonds, correctly measured in a graduated glass, was poured down his throat. On his being immediately released, he shook his head repeatedly from side to side, scuffled with his feet, became giddy, staggered, and showed symptoms like those of intoxication with ardent spirits. Presently he fell on his right side, a great quantity of slimy mucus exuded from his mouth, and he evinced labouring respiration. No convulsions were manifested, and the dog did not appear to lose consciousness. The breathing progressively became more laboured, and in a very few minutes the dog lay quite still, as if exhausted after the first stimulant effect of the oil had passed away. Some water was now thrown upon his face, and then over his head, which appeared to revive him, as the breathing became less laboured, and foam was no longer discharged from his mouth. In about a minute afterwards he raised himself up on his fore-feet. In less than a quarter of an hour from the time when the drug had been administered, the dog had so far recovered as to be free from any distressing inconvenience, and, in fact, able to walk about as usual. He proved his consciousness and sagacity by soon afterwards escaping from the presence of the experimenters. Although not destroyed by the purified oil, it is a matter of no surprise that this animal should suffer much discomfort and disturbance from its administration, since in its undiluted state, as given in this instance, it has a highly stimulant power; and another hydro-carbon of a much less pungent quality—viz., alcohol, in a dose of only two drachms, has been known to kill a dog.

Exp. 2.—A lively rat was taken out of a cage, and held with the mouth open by a professional ratcatcher, whilst four drops of Langdale's essential oil of bitter almonds were dropped from a glass measure into the mouth. This dose appeared to have very trifling effect, the animal manifested little diminution of activity, did not fall, nor show any signs of convulsion. In a few minutes it was put back again into its cage, and long before the termination of the remaining experiments, no person could have detected from its behaviour that it had been itself the subject of one.

Exp. 3.– A rat, similar in size and activity to the foregoing, was taken out, and held in the same manner; when four drops of the ordinary commercial essential oil of almonds were dropped into the mouth from a half-ounce bottle full of that fluid.[*] The animal immediately afterwards manifested convulsive motions: speedily the breathing became laborious, and the rat fell on its side,, in which position it continued to lie, frequently subject to violent spasms, until it died in about six minutes and a half after the administration of the poison.

Exp. 4.—To another rat, somewhat larger than the foregoing, four drops of ordinary commercial essential oil of almonds were similarly given, from a glass measure, the oil having been taken, in this instance, from a bottle of this liquid belonging to Mr. Langdale. For a few minutes the rat appeared little, if at all, affected; but at length difficulty of respiration supervened, and very shortly afterwards this rat, like the foregoing, fell on its side, and was spasmodically convulsed, although in a minor degree. It was put aside, and, in fifteen minutes from the administration of the poison, was found to be dead.

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[*] It should be mentioned that in order to avoid all possibility of doubt as to the actual strength and qualities of this essential oil, the above quantity was purchased on the same day, on behalf of The Lancet Commission, from the General Apothecaries' Company, in Berners-street. The ordinary *commercial* oil was expressly asked for, and obtained, because it was stated to the purchaser that the Company also kept for sale the *purified* essential oil of bitter almonds, from which the hydrocyanic acid had been extracted. The purpose for which the article was required was also specified, as, indeed, was necessary; for a book is kept at that establishment, in which the name and quantity of every poisonous article sold, the date of the purchase, the name, address, and occupation of the purchaser, the name of the vendor, and the ostensible purpose for which the poison is bought, are all set down, and the entry is signed by the purchaser himself.

A question here arises,—What was the reason that to two similar animals doses of the injurious agent similar in quantity being given, one should die in six minutes and a half, whilst the life of the other was prolonged for a quarter of an hour? The animal which was the subject of experiment 4 was, as has been stated, larger than that used in experiment 3; it was also less lively, and therefore, perhaps, less impressible by a poisonous influence. But we conceive that this will not wholly account for the difference in the power of maintaining life, and that there is another consideration which may possibly be taken into account. The oil employed in experiment 3, when purchased, was taken from a full bottle, and had not, therefore, been exposed to the influence of an atmosphere. The essential oil used in experiment 4 was taken out of a Winchester pint, in which no great quantity remained, and it had certainly for some hours remained in contact with air which occupied the rest of the bottle. Now, as hydrocyanic acid is notoriously volatile, and although intermixed with hyduret of benzoyle, is not in chemical union with that compound in the ordinary essential oil of almonds, might it not have happened that a portion of the deleterious impurity of the oil employed in experiment 4 had volatilized and escaped into the atmosphere occupying the rest of the bottle, and so have rendered the oil beneath less injurious to life than previously? If this were proved to be the case, the practical deduction would necessarily be, that the ordinary commercial oil of bitter almonds is least likely to have fatal or injurious effects when it has been most exposed to the action of the atmosphere, as when a small quantity is kept in a large bottle.[*]

EXPERIMENT 5.—To another rat four drops of nitro-benzole were given. After the lapse of three minutes, no effect being perceptible, six drops more were given. Nitro-benzole is a liquid manufactured on a large scale from coal-tar, and both in appearance and smell is very similar to essential oil of bitter almonds, or hyduret of benzoyle. It is extensively used in perfuming soaps and other articles of the toilet, for which its cheapness renders it easily available. Its chemical formula is $C_{12}H_5NO_4$, so that it may be regarded as benzole ($C_{12}H_6$), in which one equivalent of hydrogen is replaced by nitrous acid ($N\,O_4$). Essential oil of bitter almonds, or hyduret of benzoyle, is, in chemical language, $C_{12}H_5O_2$; the difference between the two ingredients is, therefore, that two equivalents of oxygen are, in nitro-benzole, substituted by one equivalent of nitrous acid. So far as the present experiment went, nitro-benzole seemed to have no more fatal effect than Langdale's essential oil of bitter almonds. The rat to which it was administered manifested no symptoms of poisoning.

EXP. 6.—A cat, of middle size, was held whilst half a drachm of Langdale's oil was poured down its throat. The animal, in less than a minute, fell on its right side, and lay oppressed in its respiration on the floor, but not struggling with any vehemence. Some froth escaped from the mouth. In another minute some water was sprinkled on the mouth and head of the animal; but, unlike the dog, the cat appeared to dislike the restorative. Upon a repetition of the ablution she started up, broke the string with which she was tied, and got into a place of concealment. In four minutes from the administration of the oil, the cat had to all appearance wholly recovered.

Experiments such as the above might have been multiplied, but there is something repulsive in sacrificing animal life merely for the purpose of repeating the verification of what has been already ascertained. The instances above cited have proved the following facts:—That of Langdale's purified essential oil of almonds, one drachm administered to a middle-sized dog, half a drachm to a cat, and four drops to a rat, were incapable of destroying life; whilst four drops of the ordinary essential oil of almonds killed a rat in two instances. On the morning after the experiments which have been related, the cat presented a dilated pupil, and refused food; in the afternoon, however, it took some meat with avidity, and it did not subsequently appear inconvenienced by the dose which it had been made to swallow. The cat was watched for two days, after which it was missing from the premises, which it had found means to escape from, doubtless considering them a somewhat dangerous locality. Although not fatal in its effect, the purified essential oil of bitter almonds, like other essential oils, cannot be swallowed in its undiluted state with perfect impunity to the digestive organs, any more than alcohol or cayenne pepper. No doubt, in doses of a drachm, or half a drachm, it is calculated to produce an inflammatory condition of the mucous lining of the alimentary canal. It is highly pungent, and a drop placed on the tongue produces a persistent sensation very analogous to that occasioned by tincture of iodine similarly applied; and it cannot be properly employed in confectionery, except when diluted with alcohol, in which it is perfectly soluble. Other essential oils, in large doses, have proved fatal to animal life, from their stimulant effect. In proof of this, we subjoin to the present report an account of some experiments, which, in addition to those above related, were also performed by Mr. Price Jones, resident medical officer of University College Hospital.

"With a view of satisfying myself whether the hyduret of benzoyle is or is not poisonous, I obtained some of the pure hyduret, purified in the manner presently to be explained, and I made the following experiments:—

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[*] It may be mentioned that a portion of the ordinary essential oil used in experiment 4 was subsequently analyzed, and found to be contaminated with a much less amount of hydrocyanic acid than is usually the case.

"Exp. 1.—Fifteen drops of the pure hyduret of benzoyle (essential oil of almonds) were given, by means of a pipette, to a rabbit a month old. The animal uttered a few cries, and became unsteady in its gait. It recovered its usual liveliness in about ten minutes.

"Exp. 2.—I gave thirty drops in the same manner to a rabbit of about the same age. Violent convulsions of the whole body came on, with prostration and very oppressed breathing. The dose proved fatal in a minute and a half.

Exp. 3.—A few days afterwards, I gave to the rabbit (No. 1) fifteen drops of the oil of caraway, with apparently the same effects as the same dose of purified essential oil of almonds. In a few minutes I gave it fifteen drops more, and in a short time afterwards, when the effects of the previous doses appeared to have passed off, I gave it thirty drops. It was immediately seized with convulsions, and it died in about a minute.

"Exp. 4.—Half a drachm of rectified spirit of wine, diluted with two drachms of water, was given to a rabbit six weeks old. This nearly proved fatal; the animal was immediately seized with convulsions, the respiration became very feeble, and it remained apparently in a lifeless condition for many minutes.

"Exp. 5.—Five drops of the ordinary essential oil of almonds, bought at a chemist's shop, were given to a rabbit six weeks old. He died somewhat in the same manner as the preceding, in about a minute.

"From the results of these experiments I conclude that notwithstanding a large quantity given to a small animal proved, in one instance, fatal, the *purified* essential oil of almonds cannot be regarded as a poisonous substance, and that it is at least as harmless as oil of caraway, which may be fatal when given in an inordinate dose. Independently of actual experiment, the innocuous qualities of hyduret of benzoyle might have been anticipated from the nature of its composition, it being a substance containing no nitrogen, and readily converted into benzoic acid by oxidation. I also tried the effects of nitro-benzole.

"Exp. 6.—One drachm of nitro-benzole killed a rabbit six weeks old almost instantaneously.

"Exp. 7.—Half a drachm, with two drachms of water, rendered a cat insensible for several minutes, and a slimy mucus flowed copiously from its mouth for several hours afterwards. It refused all food, and died on the following day, about twenty-four hours after the administration of the dose.

"Besides the invaluable advantage of having the hyduret of benzole pure, the flavour is far more delicate than that which is commonly sold in the shop as the essential oil of almonds, it being free from the metal-like bitter taste which is imparted to the latter by the hydrocyanic acid.

"It merely remains to show how the hyduret of benzole may be purified from the hydrocyanic acid with which it is usually contaminated in the essential oil of commerce. The process commonly adopted consists in distilling the oil with various metallic oxides, such as lime, potash, or oxide of mercury, whereby the hydrocyanic acid is decomposed with the formation of a cyanide of the metal, during which results the purified essential oil comes over separately.

"This process, however, is objectionable, owing to the facility with which the hyduret of benzole thus becomes oxidated and changed into benzoic acid.

"The best process is that of Bertagnini: it depends on the property which the essential oil of almonds has, in common with all other essential oils which are hydurets, of forming a definite crystalline compound with the alkaline sulphites.

"The process consists in shaking a cold saturated solution of bisulphite of soda with the essential oil, and allowing it to stand: the formation of the compound immediately begins to take place, and in a few hours it forms a copious white crystalline precipitate. The crystals are collected and purified by crystallisation from alcohol. This compound is very unstable, and is readily decomposed either by boiling or by the addition of an alkali. The hyduret of benzole is thus set free in a perfectly pure state. "W. Price Jones."

"University College Hospital."

It is estimated that about 8000 lbs. of the ordinary essential oil of almonds are manufactured and delivered for the retail British trade annually. Since the introduction of the cheaper nitro-benzole into the manufacture of perfumery, the whole of the above large quantity is destined to be eaten or drunk in some shape. It is not easy to conjecture how many fatal or injurious accidents must yearly arise from the extensive employment of an oil contaminated with a deadly poison. The production of the article from which this poison is eliminated ought to meet with public encouragement; and not only this, but, as we have before contended, the Legislature should prohibit the retail sale of essential oil of bitter almonds, unless previously divested of the prussic acid, which renders it so dangerous a compound.

EXPERIMENTS ON THE ACTION AND SOUNDS OF THE HEART.

Dr. G. B. Halford has lately given some interesting and original demonstrations and experiments on the heart's action and sounds, at the following hospitals—viz., St. Bartholomew's, St. George's, St. Mary's, and the Middlesex.

The subjects of the experiments were dogs, which were submitted to the full influence of chloroform, and then the lecturer proceeded to remove the whole of the anterior part of the thorax, having previously inserted the nozzle of a bellows into the trachea, and maintained artificial respiration (chloroformed by dropping the fluid into the valve of the bellows). These things having been done, the artificial respiration being continued, the heart's action was clearly and beautifully seen through the transparent pericardium, and the movements of its several parts carefully noted. The lecturer stated most positively that all observations on the heart's action, after the removal of its investing, restraining, and regulating membrane—the pericardium, were useless as applied to the action of the heart enclosed in its "caul," and moving with the smoothness of the eye in its socket. As well might we look for perfect uniform action of the muscles of the forearm without their fasciæ and inter-muscular septa, as to look for perfect and uniform action of the heart without its pericardium. That celebrated anatomist, Cruveilhier, had given us, in the *Gazette Médicale*, Aug. 7th, 1856, a description of the heart's action in the case of an infant born with ectopia of the heart; but he seems to have forgotten, in the minuteness of his observation, that what he was beholding was a *lusus naturæ*, not destined (because not perfected by the Almighty) for more than a few hours' fruitless and irregular struggles; for, strange to say, it possessed *no pericardium*, had no support, but by its own gravity made its fixed point where in the natural heart there is most movement—viz. at its connexion with the aorta and pulmonary artery. He doubted not for one moment the accuracy of M. Cruveilhier's observations, but they referred to an imperfect, and not to a perfect, machine.

But to return to the heart contained in the pericardium, and *in situ*, the following are the principal facts to be noticed:—

1st. When the ventricles contract—that is, at the time when the impulse is given by the ventricular fibres, the bases of the ventricles descend towards the apex, and the auricles immediately follow, occupying part of the space previously taken up by the ventricles in their relaxed, distended state, and which is explained by the loss of their contents during contraction.

2nd. When the auricles contract, they recede in the opposite direction, and the distended ventricles again occupy the space receded from, by the contracting auricles.

The lecturer showed that, by the above simple action, a reciprocity or compensation exists between the auricles and ventricles, and that, although the chambers of the heart are continually receiving and discharging their contents, yet this is so regulated as that the bulk of the contents of the pericardium (in which must be included the first portions of the aorta and pulmonary artery) is always the same. For instance, at the time of the contraction of the ventricles, the loss of the bulk of the fluid they are ejecting is made up, or compensated for, by the bulk of the fluid pouring into the auricles, and by the increased capacity, and hence increased bulk, of the pericardial portions of the aorta and pulmonary artery: and so on; but want of space prevents further following out this interesting part of the subject. The lecturer asserted that if the ventricles contracted in any other direction than that of from base to apex, the auricles could not receive blood, but that, according to his views, and to the evidence of one's eyes, the contraction of the ventricles permitted, by the recession of their bases, the pouring in of blood to the auricles; and, further, that the contraction of the auricles both caused and permitted of the complete distension of the ventricles.

3rd. When the ventricles contract, and their bases descend, the aorta and pulmonary artery, being elongated by injection, likewise descend, and their pericardial portions at the same time are suddenly and greatly distended, but by their elasticity they as suddenly react upon their contents.

4th. The impulse is felt all over the ventricles during their contraction. The finger and thumb spanning the diameter of the ventricles are perceptibly further separated during the contraction of the ventricles, and approximated during their relaxation.

5th. The apex is not tilted forward during the contraction of the ventricles, so as to give any blow to the thoracic parietes. From what is stated above, it is evident that any part of the ventricles being in contact with the parietes of the chest, will give, during contraction, an impulse, an *apparent* blow; and in disease also, the heart beating here and there as the case may be, whether one of enlargement or displacement; but they who, marking such impulse, refer it to the heart's apex, had better begin to reflect, and to be more exact both in their physiology and pathology.

The next experiment referred to the origin of the sounds of the heart, which the lecturer contends is valvular, and to prove which he proceeded thus: The heart being exposed as above, the sounds were perfectly audible through the medium of a stethoscope. A pair of bull-dog forceps was applied to the superior vena cava and another pair to the inferior vena cava, just as they enter the heart; the pulmonary veins entering the left auricle were also compressed between the finger and thumb, so that the heart became empty. A stethoscope was now applied, and, although the heart contracted forcibly, no sound was heard: the forceps and the fingers were removed—that is, blood was readmitted—and both sounds returned. The vessels were again compressed, and all sound ceased; the blood was again permitted to flow through the heart, and both sounds were restored.

In the above experiment, by preventing the flow of blood through the heart, the valves cannot be made tense, and hence cannot produce sound; that is to say, the mitral and tricuspid have no longer to resist the backward pressure of the blood during the ventricular contraction, while the semilunar do not move; being kept firmly shut down by the pressure of the blood in the aorta and pulmonary artery; but remove the fingers and forceps—i.e., re-admit blood, and then the mitral and tricuspid valves are not only called into play, but thrown into powerful vibration, resisting the pressure of the blood in the ventricles; the semilunar valves are forced open and again called into action and made tense, and both first and second sounds are restored. Therefore the first sound is heard when the ventricles contract, and the auriculo-ventricular valves are made tense and completely separate the cavities of the ventricles from the auricles, and the tension of these valves produces the first sound. When the second sound is heard, the ventricular systole has ceased, the aorta and pulmonary artery have reacted on their contents, and the cavities of the ventricles are separated from the systemic and pulmonary systems by the closure of the semilunar valves, the tension of which produces this sound.

Before concluding his remarks at the several hospitals, Dr. Halford stated that he wished particularly to draw the attention of the profession to the writings of Billing and Bryan. Dr. Billing had been the first to state accurately the cause of the sounds, and his writings were of great value to all who cared to reflect. Mr. Bryan had not only most logically supported the same views, but had published a theoretical paper on the heart's action, which his (Dr. Halford's) subsequent and repeated observations had proved to be correct.

Obituary.

DR. ANDREW URE, F.R.S.

THIS distinguished chemical philosopher was born at Glasgow, in the year 1778. He studied at the University there,[*] and subsequently at that of Edinburgh; and took his degree of doctor of medicine, in 1801, at Glasgow. In the following year he was appointed Andersonian professor of chemistry and natural philosophy in the university of that name in Glasgow, and there he also gave systematic courses of lectures on materia medica. In the year 1809, he went on a mission to London preparatory to establishing the Observatory in his native city. He there met and acqired the friendship of Maskelyne, Pond, Groombridge, and other astronomers, as well as of Davy, Wollaston, Henry, and the other distinguished chemists of that period. He resided for some years in the Observatory, then second only to that of Greenwich, devoting part of his time to astronomical science, and was there visited on friendly terms by the celebrated Sir W. Herschel. In the year 1813, he published "A Systematic Table of the Materia Medica," with a preliminary dissertation on the Operation of Medicines. In 1818 appeared an interesting memoir, entitled "New Experimental Researches on some of the leading Doctrines of Caloric, particularly on the Relation between the Elasticity, Temperature, and Latent Heat of different Vapours, and on Thermometric Admeasurement and Capacity." The conclusions offered in this remarkable paper have been adopted by Mr. Ivory, Mr. Daniell, and other philosophers, as the basis of their meteorological theories. The above memoir was read before the Royal Society, and published in the "Transactions" of that year. Amongst the most important works which followed, we may mention: "Experiments on Nitric Acid," in 1818; "On a New Explosive Eudiometer," (now called after his name;) and "On the relation between Muriatic Acid and Chlorine;" in 1819, "An Account of some Galvanic Experiments made on the Body of a recently-executed Criminal;" and "On the Constitution of Muriatic Acid of different Gravities." In 1821, the "Dictionary of Chemistry" was first published. This speedily became a book of standard authority, and passed through many editions. In 1822, there appeared in the "Philosophical Transactions," his valuable paper "On the ultimate Analysis of Vegetable and Animal Substance," to which the term "organic chemistry" is now applied. In 1824, he published a translation of Berthollet "On Dyeing," enriched with copious notes. In 1829, he gave to the world his "System of Geology." It was in the following year that Dr. Ure came to settle in London; soon after which he was employed by the Lords of the Committee of Privy Council to institute experimental researches on sugar refining. These important researches, of which the elaborate report was printed by order of the House of Commons, in 1833, led to the fixation of the then established duties. In 1834, Dr. Ure became analytical chemist to the Board of Customs. In 1835, he published the "Philosophy of Manufactures;" and, a year later, the "Cotton Manufacture of Great Britain compared with that of other countries." In 1837, he published his large work "On the Arts and Manufactures," with a Supplement about two years afterwards, the whole of which has been since greatly enlarged in the last edition of 1853. Mr. Fairbairn, whose opinion is entitled to due consideration, asserts that any person might easily make the machines requisite for that branch of manufacture from a perusal of Dr. Ure's work on the subject of Cotton—a sufficient proof of the accuracy of the descriptions and drawings therein contained.

Though in delicate health for some years past, he was not seriously indisposed till within a short period of his decease, which occurred somewhat unexpectedly on the morning of the 2nd instant.

He was elected a fellow of the Royal Society in 1822; he was one of the original fellows of the Geological Society, of the Astronomical, and of other scientific societies abroad.

On referring to Dr. Ure's principal writings, it will be seen that every department of chemical science has in succession been made the subject of distinct investigation. He possessed an amazing and varied fund of knowledge, which he was ever ready and willing to communicate: he was consulted by people in all parts of the globe on questions relative to applied science. As a lecturer he was distinguished by minute and familiar acquaintance with his subject, correctness of language, a happy power of commanding and retaining the attention of his hearers, and of awakening their ardour, enhanced by singular success in experimental illustration. His writings are characterized by terseness, vigour, and elegance. As a critic, on matters pertaining to science, he was unrivalled; as a chemical analyst he was remarkable for skill and accuracy; the results of his researches, in this department, have stood unshaken the test of time. His powers of perception, and his close adherence to inductive principles, entitle him to high rank as a chemical philosopher. Few men have contributed the same amount of useful information to society that is to be found in his writings.

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[*] While a student in the anatomy class, he carried off the prize for an Essay on Hernia.

Science has to mourn the loss of one of its brightest ornaments, and the learned ranks of Edinburgh will not easily replace the void occasioned in them by the death of Mr. Hugh Miller. Last Wednesday week the painful intelligence of Mr. Miller's death rapidly became known, and an announcement to that effect made at the *Witness* office confirmed the sad news. For some time past, it appears, Mr. Miller had been a victim to extensive cerebral disease. Excessive study and midnight labour—the worst species of mental exertion—induced even *his* mind to succumb, and the calamity of his death to follow as the result. Latterly a moody apprehension that his mind was giving way had seized upon him: he was a prey also to the idea that he was a somnambulist, and nightmare, in its most violent form, so frequently attacked him as to render the body more wearied upon rising in the morning than it had been the previous evening. Professor Miller saw him the day before his death, and came to the conclusion that extreme mental exertion had weakened his whole system, affected his digestive organs, and threatened serious head affection. Prescribing a total discontinuance of work, early hours, and slight diet, Professor Miller and Dr. Balfour doubted not that their directions, if carried out, would substantially relieve their patient. But it was too late. Already cerebral disease had formed, and the severe paroxysms it inflicted on him rendered him during the interval unconscious and irresponsible for his actions. On the morning of Wednesday week the body of Mr. Miller, half dressed, was found lying lifeless on the floor of his study. A bullet from a revolver had pierced the left lung, grazed the heart, cut through the root of the pulmonary artery, and lodged in the rib of the right side. Near at hand, a sheet of paper, inscribed with burning words, told too truly of the insane impulse which had induced the deed, and taken from Scotland one of her most zealous sons in the cause of science. The name of Hugh Miller is essentially linked to the science of his adoption—geology. With the Old Red Sandstone especially his name is inseparable. His own vivid powers of description, combined with his intimate acquaintance with his subject, have made his works pre-eminent above all others on geology of recent publication. His "Footprints of the Creator, or the Asterolepis of Stromness," intended to expose what he deemed the fallacies of the "Vestiges of the Natural History of Creation," is, perhaps, the most elaborate contribution the world received from his pen. There is one source of gratification left, melancholy though it be: his last great work, "Testimony of the Rocks," upon which for the last few months he put forth all his energies, with such terrible results, was finished, and will soon come before the world, now invested with a sad and peculiar interest. "I have finished it this day," he said, with marked satisfaction, to Professor Miller, on the day before his death; and deplorable as the event is, yet it cannot fail to soften the anguish of his friends when they recollect that Hugh Miller was permitted to finish his great work, which he especially intended should harmonize the doctrines of science with Bible truths. It was the last epoch of a great life, well in unison with his sound religious views, Christian spirit, and kindly bearing. At the early age of fifty-four, Hugh Miller has been taken from the world he so adorned, but long will the memory of his genial disposition and kind nature remain green in the memories of those who knew him. Long will his friends remember each memento of the past, and zealously retain all they may possess of their connexion with him. Those who knew him will, with the writer, now doubly feel the value of that knowledge, and hoard carefully all that may remain to them of Hugh Miller.

DR. PARIS, PRESIDENT OF THE COLLEGE OF PHYSICIANS.

It is with very sincere regret that we announce the death of this excellent and distinguished man, which occurred on the morning of the 24th ult., at half past eight o' clock, at his residence, in Dover-street. Few men have run so long and at the same time so honourable a career. For half a century precisely Dr. Paris had practised as a physician, and had risen to the very highest honours which it was in the power of his professional brethren to bestow. He was born at Cambridge on the seventh of August, in the year 1785, and at twenty-two years of age he was elected physician to the Westminster Hospital—a most distinguished honour for so young a man; and he continued in the active exercise of his professional duties until within a fortnight of his death. For fifty years, then—a considerable period even in the history of a nation—was the gentleman to whose memory we would fain offer a slight tribute of respect actually engaged in the alleviation of suffering and in the relief of afflicted humanity. To Dr. Paris, as is well known in the profession and to all persons more intimately acquainted with his career, the office of physician was no hireling's work, to be hurried through for the purpose of accumulating a fortune or earning distinction.

It was the business and glory of his life. When but fourteen years of age he commenced his studies for the arduous profession on which he was about to enter, and followed them up with a zeal incredible in so young a person; when he had attained the ripe age of three-score years and ten, the old man, true to the resolution of the boy, voluntarily took upon himself the arduous duties of President of the Medical Council of the Board of Health, and with his own hand wrote the introductory report on the cholera of 1854. His personal history may be dismissed in a few brief sentences. Born at Cambridge, as we have said, in 1785, he became a member of Caius College, in that University, and graduated when very young in medicine. Amongst his contemporaries he was distinguished for the extent and elegance of his classical attainments. The Classical Tripos was not then in existence, and so, independently of the exigencies of his medical degree, he had not at the University any opportunity for displaying that fine and intimate knowledge of the writers of antiquity for which he was afterwards so distinguished both in private life and as president of the College of Physicians. From Cambridge he went to Edinburgh, then remarkable as a school of medicine, and was the friend and intimate companion of the many celebrated men who, in the first years of the century, had congregated in the Scottish capital. On his return to London, at the age of twenty-two, he was elected, as we have said, physician to the Westminster Hospital, but soon afterwards vacated the appointment, as it was his wish to establish himself in the town of Penzance, in Cornwall.

During his residence at Penzance, Dr. Paris distinguished himself as the founder of the Royal Geological Society of Cornwall; this, we believe, was the first Geological Society in England. When at Penzance, too, he gave to the miners the great boon of the "tamping-bar," the instrument by which they are enabled to pursue their business amid inflammable gases without the fear of striking fire from the rock. By this simple but admirable invention, Dr. Paris no doubt saved more lives than many heroes have destroyed. In the year 1810 he returned to London, and here for 45 or 46 years he was actively engaged as a practising physician. He was elected President of the College of Physicians in the year 1844, and this office he held until the hour of his death. Dr. Paris was not only known as a physician of the highest eminence—he was as remarkable for his literary ability. The "Life of Sir Humphry Davy" will ever remain one of the classical biographies of the English language. In conjunction with Mr. Fonblanque, he also wrote the "Medical Jurisprudence," which has remained a text-book with lawyers until our own day. His works of a more professional character were his treatise "On Diet," which first brought him into notice, and which was published at a very early age; his "Pharmacologia," which has run through more editions than most books; and his work on medical chemistry. Besides these, and many other acknowledged publications, his "Philosophy in Sport" has attained an enormous popularity, and, with his life, the motive for an *incognito*, which was never really maintained, has altogether terminated. In so brief a notice as the one to which we are necessarily limited by considerations of space, we can add but little more. The last ten days of Dr. Paris's life were spent in the midst of excruciating sufferings, which were borne with the most remarkable fortitude. His chief concern appeared to be to console and comfort those around him, who could ill-disguise their grief at the impending and irreparable loss. His intellect remained to the last as clear as at any time of his life, and while power of speech remained nobody who listened to him could believe that the end was so near at hand. The public and the medical profession have suffered a great loss in the death of John Ayrton Paris, one of the most disinterested, honourable, and able men who have ever practised the profession of medicine. The grief of his own family and of those whom he honoured with his friendship is not matter of public concern, save in so far as it may show how this wise and good man was honoured and beloved by those who knew him best.

Dr. Paris retained the old views of the college physicians respecting medical reform. Though of late he had joined in the conferences respecting the Medical Reform Bill, his opinions remained unchanged. He mixed little with his professional brethren in public. He was an occasional visitor atthe Royal Institution, but during the last twenty years we never recollect seeing him at any one of the medical societies.

News Items, Medical Facts, &c.

APPLICATION OF LEECHES.—Having selected the spot to which they are to be applied, cover it with a sinapism, which is to be allowed to remain some time, in order to effect congestion of the capillary vessels. Then wash the place carefully, and place the glass containing the leeches upon it. In a *few minutes* they will all take hold and draw with an energy and rapidity quite remarkable. After the leeches fall off, the flow of blood from their bite is more abundant, and continues for a longer time, than under ordinary circumstances.—*Gazette des Hôpitaux.*

THE LATE MR. HUGH MILLER.—It is understood that measures will be taken to purchase the valuable geological museum of the late Mr. Hugh Miller, and place it in a fitting receptacle, enabling the public to visit the treasured collection accumulated with such care and perseverance by the great genius who has passed from them. A geological specimen decorates the grave of Hugh Miller—an appropriate and happy emblem of his labours in geology.

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MISCELLANEOUS CORRESPONDENCE.

IX.
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A Course of Lectures
ON THE
THEORY AND PRACTICE
OF
OBSTETRICS.

BY W. TYLER SMITH, M.D.,

PHYSICIAN-ACCOUCHEUR TO ST. MARY'S HOSPITAL, AND LECTURER ON MIDWIFERY AND THE DISEASES OF WOMEN IN ST. MARY'S HOSPITAL MEDICAL SCHOOL.

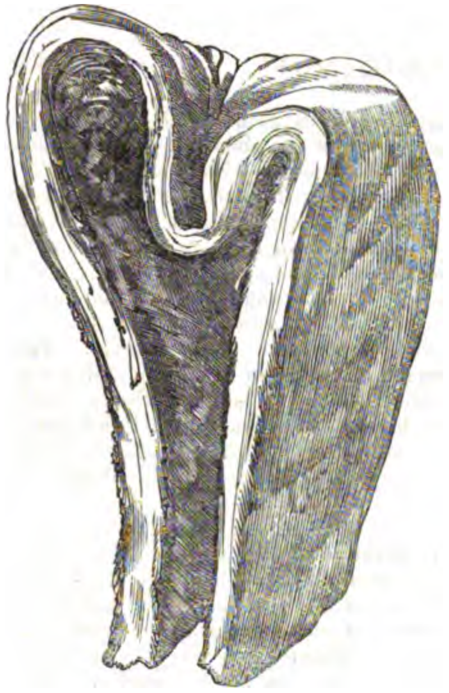
LECTURE XXXVIII.

INVERSION OF THE UTERUS, &C.

THIS accident has sometimes been attributed to irregular action of the uterus, but more generally to mechanical traction of the cord, and to injudicious attempts at removing the retained or adherent placenta. When inversion is referred to traction of the umbilical cord, whether in consequence of a short funis, the sudden birth of the fœtus while the mother is in the upright position, or the attempts of the obstetrician to remove the placenta, it is always believed to depend on the merely mechanical force which is in operation. It is considered that the fundus uteri is dragged down mechanically through the os uteri and vagina, the uterus being supposed to be passive during the occurrence of the inversion. I have always been of opinion that, in the great majority of cases, the accident happens in consequence of irregular but active contractions of the uterus itself. No doubt, cases may occur in which inversion is produced by great tension upon the cord, while the placenta is firmly adherent to the fundus, and that all violent traction of the cord while the placenta is attached to the fundus is reprehensible. But when inversion is thus produced, there must be a consenting action of the uterus. The accident has sometimes happened when the hand has been introduced to peel off the placenta from the fundus, when the hand, placenta, and uterus have all been forced out by the violence of the abnormal uterine action. All the facts connected with this catastrophe show that it generally depends, not upon a passive, but an active, condition of the organ. There are numerous points which prove that it may happen spontaneously, and apart from all interference on the part of the accoucheur. It may occur after the death of the mother, as the result of post-mortem contraction of the uterus. Numerous cases are on record in which the uterus was found inverted before any attempt whatever had been made to remove the placenta, and while the patient was lying quietly in bed. It has even been known to occur in the unimpregnated uterus. I have elsewhere insisted that the unimpregnated and virgin uterus, particularly under irritation, possesses more motor power than is generally attributed to it. The nulliparous organ has been known to invert itself, as the result of spasmodic action, in long-continued menorrhagia, or as the result of a small polypus or fibrous tumour in the cavity, or upon the peritoneal surface, of the fundus. The more this subject is studied, the less will it be referred to merely mechanical derangements.

Let us observe the steps by which complete inversion is produced. There is, first, cup-like depression of the fundus uteri; coincident with, or immediately following upon, this depression, there is hour-glass contraction of the body or lower portion of the uterus. The annular contraction of the body of the uterus grasps the introcedent fundus as it would a foreign body, and carries it downward for expulsion through the os uteri, the os uteri being at this time either in a state of inertia, or actively dilated, just as at the end of the second stage of labour. After the inverted uterus has passed through the dilated os uteri, this part of the organ becomes contracted, preventing re-inversion from taking place. Thus, there is, first, depression of the fundus uteri, with annular or hour-glass contraction of the body of the uterus, and dilatation of the os uteri. Next, there is intussusception of the fundus by the body of the uterus. Lastly, complete inversion occurs, with contraction of the os uteri upon the inverted organ. If we wished to describe this accident in three words, they would be,—introcession—intussusception—inversion. The displacement may not be complete; it may in some cases stop at introcession; in others, at intussusception, and then return to the natural state; or it may remain intussuscepted, or in a state of partial inversion. We may compare perfect inversion of the uterus to intussusception of the intestinal canal, only that the intussuscepted portion of intestine is not protruded externally.

FIG. 149.



Commencing inversion of the uterus, from a preparation in the Museum of Guy's Hospital.

Inversion produces violent disturbance of the nervous system, and is frequently attended by alarming hæmorrhage. But the symptoms of the intussuscepted uterus are equally violent. The strangulation of the fundus is almost as severe a shock to the system as actual rupture. In inversion, the hæmorrhage is somewhat arrested by the os uteri acting as a tourniquet to the uterus. In either case the shock to the system may be so great as to cause death within a short time after the accident. The shock is so severe that a fatal result has ensued, when little blood was lost, and when, after a short time, the reinversion of the uterus was effected. The diagnosis of this affection is sufficiently easy when the placenta is adherent to the inverted uterus, but there are circumstances which complicate the diagnosis, when a tumour appears in the vagina after the separation and expulsion of the placenta. In true inversion, the globular ball of the uterus is entirely absent from the hypogastrium, and a bleeding mass is found in the vagina, or protruding externally. This mass may, however, be simulated to some extent by a prolapsus or procidentia, occurring immediately after labour, or by the extrusion of a polypoid tumour after the expulsion of the placenta. In the case of the prolapsed or procident uterus, the diagnosis is easy, from the presence of the os uteri in the most depending part of the tumour. The distinction between polypus and inversion is not so easy, particularly when the polypus is of a fibrous character, and of the same density and structure as the walls of the uterus itself. In the case of polypus, there is the sensation of a solid mass; and in inversion, that of a hollow organ is conveyed to the finger. When punctured or pricked, the uterus is said to be much more sensitive to pain than the polypoid tumour. In complete inversion the fossa round the base of the tumour is limited in extent, while in polypus the finger may be passed into the cavity of the organ, the pedicle can generally be felt, and there is the uterine tumour in the lower part of the abdomen. Great care is required in the diagnosis, as cases have occurred in which a polypus has been mistaken for an inverted uterus. and, in some instances, inversion has occurred without the accident having been recognised at all, until long after the time of labour.

Inversion generally occurs quickly after the delivery of the fœtus, between the expulsion of the child and the expulsion of the placenta. I have known it to take place after the death of the mother, and after rupture of the uterus had occurred. In the latter case, the fœtus was passed into the peritoneal cavity, while the uterus became inverted, and protruded through the vagina. The predisposing causes of the accident are the causes of acute labour, and excessive or irregular action of the uterus. It is of very great importance to understand clearly the real nature of inversion, as it is one of those accidents which is most confidently referred to mal-practice. The less it is considered a mechanical displacement, the less disposition will there be to attribute its occurrence to the accoucheur; owing to the prevalence of the mechanical idea, obstetricians have sometimes been blamed most unjustly in cases of postpartum inversion.

The treatment consists in the mechanical reposition of the uterus. Immediate steps should be taken to reduce the inversion, because of the rapidly increasing contraction of the os uteri, which, by impeding the circulation, causes an increase in the size of the tumour. The size of the uterus should be reduced as far as possible by pressure, and by detaching the placenta in cases where it still adheres. By moderate but sustained force the uterus is then to be passed up through the vagina and os uteri. After the organ has been partly passed through the os uteri, the muscular action of the uterus itself assists in restoring it to the proper position. It is reinstated with a sudden jerk, causing a considerable report at the moment of its restoration. In cases where intussusception exists, the hand must be passed through the os uteri, so as to overcome the annular contraction, and to restore the intussuscepted portion to its proper position. Cases of intussusception and inversion require careful watching until the uterus has permanently contracted. Although it may justly be said that inversion may occur when the accoucheur is entirely blameless, I do not think the same can be said when the case is allowed to remain unreduced, and the patient lives on in a state of extreme misery and danger. It would be extremely culpable if such an accident either passed unrecognised, or if the first few hours after labour were allowed to pass without the re-inversion of the uterus. I cannot suppose that with proper and prompt management any case could be considered irreducible, within a reasonable time after the accident. Suppose the os uteri to be in a state of spasmodic contraction, we have in chloroform a powerful means of rendering it dilatable, and of allaying pain when the tender state of the uterus is such as to prevent the necessary manipulations. In these cases promptitude in action is of the greatest consequence. Every hour that elapses after the accident before the reduction of the inversion is effected increases the difficulties in the way of its accomplishment. Very rare cases are met with, in which menstruation has been normally performed with an inverted uterus, and when the presence of a tumour in the vagina and a constant leucorrhœal discharge have been the only symptoms; and cases are recorded in which the uterus has spontaneously re-inverted itself a considerable time after delivery. Usually, however, the patient is subject to an almost constant drain of blood and muco-purulent discharge from the inverted mucous surface, and she perishes after a longer or shorter interval. The alternative, when reposition is considered impossible, is the extirpation of the inverted organ by the dangerous operations of the ligature or excision.

There are some other abnormal actions of the uterus, allied in some respects to Inversion, to which I must now direct your attention.

Encysted Placenta is a term sometimes applied to cases in which a sphincteric contraction of the os uteri comes on rapidly after parturition, before the placenta has been expelled. The placenta, in these cases, may be either attached to the uterus, or it may have been thrown off, and be lying close within the contracted os uteri. This complication is most common after acute labours, or in prolonged labours, where the pains have been excessive, up to the time of delivery. Excepting that it occurs after delivery, instead of in the early stage of parturition, it is comparable to that form of rigidity, in which sphincteric contraction of the os uteri is predominant. Owing to the increased mobility which the os uteri acquires during the progress of labour, its post-partum contractions are sometimes more forcible than any active contraction which occurs before delivery; and the rigidity is never mechanical, because of the great dilatation which has occurred during the progress of the labour.

In treatment, it is of considerable importance to deal promptly with these cases. The longer the os uteri remains contracted, the more difficult will its dilatation, so as to admit of the extraction of the placenta, become. If the placenta can be felt close to the os uteri, gentle but firm traction of the cord, held as near as possible to its root in the placenta, should be used, so as to convert the placental mass into a dilator. We can often beneficially assist the effects of traction of the umbilical cord in dilating the os uteri, by gentle pressure exerted externally upon the abdominal surface, at each recurrence of the uterine contractions, sweeping the placenta, as it were, into the pelvis and towards the os uteri, by the hand, while steady traction of the cord is being kept up. If these methods should not be successful, the os uteri must be slowly dilated by the fingers, so as to admit the hand or fingers, according as the placenta may be required to be detached from the uterus, or merely withdrawn from the cavity. The utmost gentleness consistent with the necessary force should be employed; and, if necessary, any threatening of convulsion or laceration should be prepared for by bloodletting. If the patient's mind should be excitable, or the dilatation of the os uteri should be painful, an opiate is of great use; but it acts rather by soothing mental emotion and allaying pain, than by reducing the spasm of the os uteri. When the case is misunderstood or neglected, and the woman survives the shock and the effect of loss of blood, her life is generally one of danger and misery. I have met with several cases of encysted placenta, where the secundines had been allowed to remain a considerable time, and where the os uteri was in a state of the most perfect contraction, where chloroform was of the greatest use in relaxing the os uteri, and allowing the accoucheur to perform the manipulations necessary for the removal of the placental mass.

The foregoing remarks apply to cases in which the placenta is either wholly adherent to the uterus, or the whole uterus is so firmly contracted upon the separated placenta as to prevent internal uterine hæmorrhage. Cases, however, occur in which spasmodic closure of the os uteri is attended with separation of the retained placenta, and inertia of the body and fundus. In such cases, dangerous internal hæmorrhage is inevitable, and the removal of the contraction of the os uteri becomes quite secondary in importance to the arrest of the hæmorrhage. Our first object here must be to excite such an amount of uterine contraction as to stay the loss of blood. In all cases where the first steps taken for the dilatation of the os uteri, which of themselves tend to produce uterine contraction, are ineffectual, the uterine inertia should be treated most energetically, without any reference to the state of the os uteri.

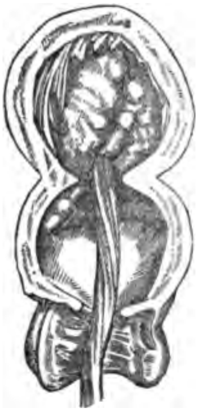
In some cases of retained placenta the uterine spasm is not situated at the os uteri, but at the junction of the cervix uteri with the body of the organ; in the same situation, in fact, as the narrow portion of the organ in the unimpregnated state, and at which the greatest resistance is met with in the introduction of the uterine sound. This state of the uterus is called Hour-Glass Contraction. In other cases the constriction is still higher up, involving the body of the uterus, being similar in its nature to those band-like spasmodic contractions, which are sometimes observed in the large intestine. In the lower animals, where the uterus in its anatomy resembles an intestine, there can be no difficulty in understanding this form of annular contraction.

In other cases, the hour-glass contraction occurs after the separation of the placenta, when it may be the cause of internal hæmorrhage, because of the inertia of that portion of the uterus which is above the stricture. After the expulsion of the fœtus, the contractions of the uterus ought to be uniform in the entire organ, so that in hour-glass contraction there is always a double departure from the physiological condition of the uterus; there is both spasm and inertia. The treatment of these cases must be conducted on the same principles as cases of sphincteric contraction of the os uteri; but we have an additional remedy, of considerable efficiency, in frictions applied to the abdomen over the uterus. True and complete hour-glass contraction is a rare affection; but in very many cases of post-partum hæmorrhage, portions of the uterus are spasmodically contracted, while others are so relaxed as to admit of the flow of blood from the mouths of the vessels on its internal surface. Occasionally it happens that one lateral half of the uterus will be contracted while the other half is relaxed. In cases of hæmorrhage, with hour-glass contraction, there may be no escape of blood per vaginam, the effused fluid being confined in the upper chamber of the uterus by the stricture.

The causes of hour-glass contraction may be any of the causes of acute, irregular, or tardy labour; but it most generally occurs after rapid parturition, particularly the rapid transit of the child through the external parts. Coagula in the uterus, the retained placenta, or improper traction of the cord, and mental emotion, are all exciting causes of the accident.

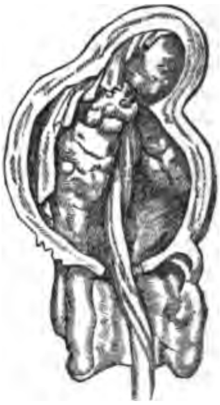
It will be useful to compare the different forms of irregular action of the uterus with each other. The resemblance between the spasmodic form of Rigidity of the os uteri during labour, and the most simple form of Encysted Placenta—namely, sphincteric closure of the os uteri with retention of the placenta—is at once obvious. The same contracted state of the os uteri is present in Inversion, after the uterus has descended through the os uteri. In the form of encysted placenta, or irregular action of the uterus, constituting Hour-glass Contraction, we have precisely the same condition of the middle portion of the uterus as that which obtains in the second stage of inversio-uteri. In simple hour-glass contraction, the cavity of the uterus is divided into two parts by the contraction of the middle portion of the organ; but when, owing to irregular action of the fundus, this part of the organ descends into the cavity of the uterus, and the hour-glass contraction then occurs, the fundus uteri is seized by the contracting ring of the uterus, borne down through the os uteri and vagina, and inversion is thus rendered complete.

FIG. 150.



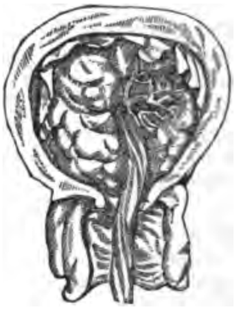
Contraction of the os uteri and the whole of the uterine cavity.

FIG. 151.



Contraction of the upper portion of the uterus.

FIG. 152.



Hour-glass contraction.

After the inversion, the os uteri, which dilates to allow the inverted uterus to pass, becomes firmly contracted. Again: all these abnormal actions, occurring after delivery, are but modifications of excessive After-Pains. In severe after-pains, it is easy to feel with the hand that the uterus becomes hard and prominent at particular points, and soft and depressed at others. From these irregular contractions the more serious irregularities of uterine action arise. Sphincteric and premature closure of the os uteri is the most simple derangement; next comes the annular contraction of the upper part of the cervix, or the body of the uterus, in hour-glass contraction; and lastly, the phenomena of inversion, which is the most compound of all these disordered actions. Thus rigidity of the os uteri, encysted placenta, inversion of the uterus, hour-glass contractions, and excessive after-pains, are merely modifications of irregular uterine action, and they are all convertible one into the other. These views materially simplify our comprehension of these post-partum accidents. It may be said, however, that hitherto they have generally been treated of in an isolated manner, and with little reference to uterine physiology, or to their evident relationship with each other.

LECTURE XXXIX.

PUERPERAL MANIA.

Gentlemen,—The specific forms of mania incidental to childbearing, may occur either during pregnancy, at the time of labour, in the puerperal period, or in the course of lactation. Of these, the Puerperal Mania is the most frequent and formidable.

In Pregnancy, we sometimes have the nervous phenomena of gestation in such an aggravated form, that the balance of the patient's mind is lost, and her reason and moral faculties totter and fall for a time. This state of things is brought about by the hysterical temperament, when in a state of intense development; by improper moral management on the part of friends and relations, or depending on the patient herself, by neglect of the excretory functions; by hereditary predisposition to insanity, and by sudden shocks, &c. Its treatment has already been referred to, when speaking of the diseases of pregnancy, and in the last resort, the only remedy we can depend upon is the induction of premature labour.

In the course of Labour, a nervous, excitable subject may, at any time, suffer a transient loss of reason during the height of a powerful pain attended by almost unbearable anguish. This happens most frequently, however, and for a longer time, at the moment when the head passes through the os uteri, or the os externum, and particularly the latter. I have known it to occur at the moment of birth, when the forceps has been used. It is more apt to take place in first labours than in multiparæ, and when the head of the child is of larger size than usual. Women sometimes lose their self-consciousness, or self-control, and commit, if allowed, extravagant acts, in these brief intervals of insanity. When the attack occurs at the time of the passage of the head through the external parts, patients will attempt to injure the attendants or the infant; and there can be no doubt that in some cases of Infanticide, where the child is destroyed immediately after labour, the crime is committed while the mother is in a state of temporary and irresponsible phrenzy. Such cases should, however, only be received with great caution. This form of mania is so transient that it generally only requires the necessary amount of restraint, and the removal of means of mischief, for a very short period. I have no doubt whatever, that this form of insanity might be prevented by the use of chloroform during the pains of labour, before the suffering has reached such a height as to make the patient frantic.

Genuine Puerperal Mania, or that which occurs shortly after parturition, appears to me to depend, in the great majority of cases, upon the shock of labour; the general and local irritation incident to delivery, and its immediate consequences; and upon the exhaustion produced by the accumulated effects of gestation and parturition. Except in the few cases in which inflammation of the brain occurs, when it is removed from ordinary insanity, the disease is, I believe, always attended by constitutional exhaustion.

Various circumstances predispose to the occurrence of insanity in puerperal women. It sometimes occurs in combination with uterine inflammation, or suppression of the lochia, the metritic irritation exciting the cerebrum in a reflex form. Occasionally, mania alternates with inflammatory disorder of the uterine organs or the peritoneum, the one disease completely receding as the other becomes prominent. The existence of puerperal mania will sometimes completely mask inflammation of the pelvic organs, and even phthisis. In other cases, intestinal irritation, or the use of improper and unwholesome food, is the exciting cause of the disease, as proved by its sudden disappearance when the stomach and bowels have been efficiently relieved. Cases are met with, in which the retention of viscid and morbid secretions in the breasts has excited the brain to the pitch of mania. This disease is often met with in women in whom hysteria has been very pronounced during pregnancy. Hereditary predisposition to insanity, morbid fear of labour and its results during pregnancy, frights in the course of pregnancy, or labour, or in the puerperal period, are important predisposing elements. The hereditary tendencies of puerperal insanity have been made out by Gooch, Burrows, Esquirol, and others. Women belonging to families in which insanity manifests itself are liable to puerperal attacks. Several women in the same family, or two or three generations, have been known to suffer from puerperal mania, and the same woman is sometimes attacked in successive pregnancies. It is found that in times of great public excitement or calamity, puerperal mania is rendered more common. I saw a case during the late war, in which puerperal mania was caused by the intelligence of the sudden death of a near relative. It has a tendency to occur in women who have children very rapidly, and who nurse one child during pregnancy with another; or in women who have twins or triplets, as sometimes happens, several times in succession. I had, some time ago, a maniacal case in this Hospital, in which the patient had had twins three times out of seven deliveries. I have seen cases where it had apparently depended on the use of large quantities of chloroform during labour. It has been caused by profuse hæmorrhage, occurring during delivery or after labour; or as the result of profuse bleedings in puerperal convulsions or post-partum inflammations. It also sometimes appears as the sequelæ of convulsions, in albuminuria, and the other forms of convulsive disorder met with during labour. In some cases, sleeplessness, prolonged through several days and nights, appears to be a powerful exciting cause of the disease, but the insomnia is both a cause, and a symptom, of the disorder, and it is difficult to say to which category the pervigilium frequently preceding insanity should be most distinctly assigned.

Puerperal mania must be distinguished, not only from phrenitis, but from pure delirium occurring at the fever incident in some cases to the first secretion of milk, or met with in the course of phlebitis, or puerperal fever. The pathological lesions found after death from puerperal mania do not throw any great light upon the essential nature of the disease. No constant morbid changes are found within the head, and most frequently the only condition found in the brain is that of unusual paleness and exsanguinity. Many pathologists have also remarked upon the extremely empty condition of the bloodvessels, particularly the veins.

The attack generally comes on within a week or ten days after delivery. Sometimes it is sudden, the patient at once starting off from a state of coherence into the realm of mania; but more frequently there are some days of premonitory warning. In the latter cases, the patients are either unnaturally loquacious or taciturn; talking incessantly, and upon the most trivial and irrelevant subjects; or refusing to speak even when spoken to. There is a tendency to complain of the husband, the nurse, or to express dislike of the child, and a wish to injure it, with other signs of moral perversion. The pulse is not much accelerated; the face pale, or occasionally flushed; the eyes are preternaturally bright; there is intolerance of light, noise, or of movement in the room. There is either unbroken sleeplessness, or, if the patient sleeps, she is troubled with dreams, which render sleep unrefreshing. The bowels are often confined. When this state of things passes on to actual mania, there is the same uncontrollable and incoherent loquacity. If an attempt be made to take down the words uttered by a patient suffering from puerperal mania, they yield, in the worst cases, not the slightest thread of coherent thought. The words or subjects of rambling talk are suggested by the objects coming before the senses, but the mind does not dwell more than an instant upon the same subject, or the words uttered by the patient herself start successively the subjects of raving; but the prevenient words and their suggestions are as irregular as the changing figures of a kaleidoscope, and at times the raving is an unmeaning jabber of fragments of words, or of sounds which hardly represent syllables. Sometimes, amidst an amount of incongruous raving, certain ideas are constantly recurred to, such as the birth of the child. Very frequently the language of such patients is most obscene, and constantly turns upon sexual matters, the movements of the body and actions being such as to indicate a nymphomaniacal condition. Delicate ladies will use language which it would be thought impossible they could ever have had the opportunity of hearing. Sometimes events long forgotten, and even languages learned in childhood, will be remembered, which the patient would have no knowledge of subsequently. There is almost always the inclination to commit violence upon herself or others, and particularly upon the infant. Many patients are at times conscious of the suicidal or homicidal tendency, and implore those around them to defend them against their evil inclinations. When the disease becomes chronic, the tendency is generally to melancholic, rather than to other forms of derangement.

Sometimes patients refuse food altogether, or accuse those about them of administering poison, or they declare they are being starved even while they are eating ravenously. These symptoms, or groups of them, in various modes of combination, may exist for a few days, or they may continue for weeks or even months, the patient being reduced, in the protracted cases, to the utmost degree of weakness and debility. Nothing can exceed the marasmus of some of the cases of puerperal mania which spread over a long time. The state of the nervous system interferes in the gravest manner with the functions of nutrition, and the patient is worn out by incessant talking, locomotion, or such movement as is permitted, and want of sleep. In the early stages of puerperal insanity, the pulse is often quick, the skin dry and hot, the head throbbing and heated, and the tongue dry; the milk and lochia are commonly suppressed. As the disease becomes chronic, the tongue becomes comparatively clean and the pulse natural. There is a peculiar sour smell about the breath, and the odour of the skin is very disagreeable. The bowels continue constipated. I am not aware that the urine has been examined, but it is probably loaded with phosphates, from the rapid disintegration or metamorphosis of the material of the brain.

The indications of Treatment in puerperal mania, are the subdual of cerebral excitement, the removal of remote irritation, the repair of exhaustion, and the management of local disorders complicating the maniacal attack. The removal of the hair, the application of ice or cooling lotions to the head, blistering behind the ears, or upon the back of the neck or the scalp, and, in rare cases, a few leeches to the temples, are all that we should dare to venture upon in the way of local applications. Subsidiary to these means, but scarcely of less importance in calming nervous excitement, are the avoidance of light, of noise, of conversation, and the sight of persons and things having an irritating effect upon the patient. Every excitement of the senses and of the emotions should be suspended as far as possible. Local irritation should be removed, by drawing breasts when these are loaded, and by the exhibition of purgatives. Cases are sometimes met with where the irritation of the brain has depended on fæcal accumulations, when a smart purge has at once and completely recovered the patient. But the cases requiring active purgatives need a nice discrimination, otherwise injury is done by weakening the patient. General bloodletting is never called for, it is hardly too much to say, in ordinary puerperal mania. There are few conditions of the economy in which bleeding is so ill borne, and in which such disastrous results ensue upon its performance. Many cases are on record in which venesection has destroyed the patient with great rapidity. Within a comparatively short space of time, I saw two maniacal cases after delivery in the same district, one of which exemplified the danger of bleeding, and the other the origin of the disease from exhaustion. In the first, symptoms of mania came on a few days after delivery, and while her medical attendant was shut up as a witness in a court of law, another practitioner was called in, who, seeing the patient in a state of raving excitement, bled her profusely, when she sank rapidly, dying in spite of all attempts to rally her. In the other case, the patient, partly from principle and partly from poverty, had been a teetotaller, and had had children at the rate of about one a year, suckling them upon water and a scanty diet. When I saw her, a week after her confinement, her mind was wandering; she had scarcely, if at all, fallen asleep, even for a moment, during the time mentioned, and she had been harassed by the constant application of the child to breasts which refused to secrete their nourishment. The anæmia in this case was extreme. Her maniacal disorder increased, and she died, no support or stimulus making any impression upon her exhausted system.

Due attention being paid to the cerebral excitement, the patient should have a full amount of support and stimulus. It often happens that digestion and absorption are remarkably rapid in these cases, and the patient suffers from an exacerbation whenever the stomach is empty, or she is kept long without food. In many cases, wine, porter, or brandy, can be given freely, at stated intervals, with the best effect. Ether, ammonia, hyoscyamus, and camphor, are very useful as supporting and soothing the nervous system, particularly hyoscyamus in combination with ether or ammonia. Opium is exceedingly useful, especially in cases attended by protracted insomnia. In cases most strongly marked by excitement, chloroform has been inhaled with the best effects. When the disease becomes chronic, the preparations of iron, quinine, and other tonics are necessary. In long-continued cases there is special evidence of the exhaustion of the reproductive system. Amenorrhœa generally exists until the mental disorder gives way. Generally, the mammary secretion is arrested from an early period; but, beyond relieving the breasts when they are full, no attempt at suckling should be made in these cases.

Are there any essential differences between the puerperal and other forms of mania? Some authorities of eminence have believed that no such differences exist, while others have considered the varieties of insanity connected with the reproductive functions, and particularly the puerperal disorder, so peculiar as to constitute a distinct class. The answer to the preceding question will very much depend upon whether we take a large or a circumscribed view of such cases. If we look at the patient during the attack alone, the symptoms, it is true, vary little, if at all, from some other cases of insanity. If, however, we consider the previous and subsequent histories of cases of this kind, we shall come to the conclusion that there are special features arising out of the facts that the functions whose disordered conditions produce the insanity are not permanent but temporary; that patients the subjects of puerperal attacks are not so liable as others to renewed invasions of derangement, particularly after the child-bearing epoch has passed, and that they are not so likely to transmit an hereditary taint to their offspring.

These points bear practically upon the management of puerperal cases. Those who suppose the puerperal and other forms of insanity to be identical, naturally advocate a similarity of treatment as regards restraint and seclusion. I believe, however, that great mischief is frequently done by placing puerperal patients in public and private lunatic asylums. In my opinion, such cases should rarely, if ever, be placed in asylums. After their recovery, they frequently retain a lifelong sense of the stigma of being so treated, the suspicion of hereditary mania is raised against families, and no good is obtained which could not be derived from a private seclusion of such patients from their immediate families and friends. In no cases do the blessings of the modern treatment of the insane stand out more prominently. I remember, when a student, seeing a patient suffering from puerperal mania kept for months in a dark pen, with only straw to lie upon, and a rug for a covering. No patients require more careful watching lest they should do themselves or others mischief. Every means of injury should be removed or prevented, as far as possible, and the patient should never be left for a moment alone, or especially with her infant. It is necessary to gain, by firmness, a mastery over such patients. They recover more quickly when not allowed to see their husbands, infants, or immediate relatives, and they are most easily managed by nurses whom they have not previously known; but they often retain for years the keenest sense of any unkindness done to them during the continuance of their disorder. In some other and more happy cases, nothing is remembered of the birth of the child or the subsequent illness. These are, however, exceptions, and puerperal patients should always be treated as though they were destined to a perfect recovery, and to remain without any necessary tendency to subsequent mental disease. Dr. Hood dwells with great humanity upon the unhappy position of some of the patients confined for life in Bethlehem as criminal lunatics, who have killed their children during attacks of puerperal mania. Some of these poor creatures have passed the childbearing age, are perfectly clear in intellect, conscious of what they have done, and suffer intense misery therefrom, while they have their desolation enhanced by mixing constantly with confirmed lunatics. Surely philanthropy should find some remedy for such a state of things.

The cases of insanity which occur as the result of undue Lactation are very similar to cases of puerperal insanity, only that their symptoms come on in a more gradual manner. When nursing women complain of loss of sight or hearing, and headache, either their nourishment and stimulus should be increased, or suckling should be at once discontinued. Where there is any predisposition to insanity, mothers should not, if possible, be allowed to suckle their children. In all cases of this kind, the dependence of the mania upon exhaustion is abundantly evident. It is especially likely to happen when pregnancy and lactation are allowed to proceed simultaneously.

There are in the subjects of this form of disease the same suicidal and homicidal tendencies as in puerperal insanity. I once met with a case in which a mother delivered of twins became affected in her mind from suckling, and a wet-nurse was procured in the person of a young girl who had given birth to an illegitimate child. She had nursed her own infant for some time, and then, while being drained by the twins, again became pregnant. Signs of insanity manifested themselves, and she was one day found dead, hanging behind the door of her room. This form of insanity sometimes comes on weeks or months after the close of lactation. I have no doubt that the woman Brough, who killed, two or three years since, several of her children at Esher, and who is now a confirmed lunatic in Bethlehem, had suffered from over-lactation. She had weaned a child not long before the dreadful tragedy, had complained of loss of sight, and severe nervous disorder, and had suffered in her head in previous lactations. The preventive treatment of this form of insanity consists, of course, in weaning as soon as any marked signs of nervous disorder are perceived. In the management of such cases, great care in guarding the patient is necessary, and the treatment of this disease must be a supporting and stimulating one, combined with perfect rest, and the avoidance, as far as possible, of all moral and physical excitement.

LECTURE XL.

PUERPERAL CONVULSIONS.

Gentlemen—Convulsions, like the other disorders of parturition arising from excessive nervimotor action, may be divided into those of Centric and those of Eccentric origin. This division is the most convenient for an investigation of the Causes of this formidable disease.

The Centric causes of convulsion may be either intra-cranial or intra-vertebral, or both. I proceed to speak first of the intra-cerebral causes.

Any mechanical or emotional stimulus applied in excess to the spinal centre itself, may excite convulsion during the puerperal state. In all women the excitement of the nervous system inseparable from parturition is a predisposing cause of the attack, which is provoked whenever any other sufficient exciting cause supervenes upon this parturient excitability.

A clot of blood, or serous effusion, occurring in any part of the brain, may cause convulsion by mechanical counter-pressure upon the medulla oblongata. In full states of the circulation, convulsion may be caused by cerebral distension alone. Here it must be the counter-pressure on the medulla oblongata which, in part at least, produces the disease. Any disease of the brain, of the membranes, or of the skull, capable of exerting internal pressure, may cause convulsion in this manner.

The intra-vertebral causes of convulsion consist chiefly of disorders of the spinal meninges, and upon conditions affecting the substance of the spinal centre itself. Probably excessive distension of this organ with blood excites convulsions; it is certain that the opposite condition, spinal anæmia, becomes a powerful exciting cause. In cases of irremediable uterine hæmorrhage, convulsion is the common form by which death occurs; or a convulsion may occur from loss of blood before the patient is *in extremis*. I shall, moreover, endeavour to show hereafter, that in some cases of convulsion arising from other causes, excessive bloodletting comes in at length as a cause of the fits, the therapeutics of the disease trenching distinctly upon its pathology. In animals killed by bloodletting, either by experiments or at the shambles, convulsion always occurs during the act of dying.

The state of the blood circulating in the spinal marrow, as regards its constitution, is an important cause of centric convulsion. All agencies which interfere with the proper depuration of this fluid during pregnancy, or on the approach of parturition, contribute to render the blood a morbid stimulant to the spinal system. Such are the constipation and insufficient secretion from the bowels caused by the mechanical pressure of the gravid uterus upon the intestines. The albuminuria, sometimes present, and which also appears to be caused by pressure on the kidneys and the renal vessels and nerves, accumulates noxious elements in the blood. This condition requires our special notice, as the most important and general of all the centric causes of puerperal convulsion. The encroachment of the abdomen upon the thorax must also render the due oxygenation of the blood difficult. Asphyxia invariably produces convulsions, and when it occurs during parturition, must necessarily produce this disease. The act of abortion from asphyxia seems to be almost a part of the general convulsion excited by the deprivation of oxygen. There are various other sources of sanguineous impurity, all of which contribute their quota towards rendering the blood morbidly irritating to the nervous centres. It deserves to be borne in mind, that the depuratory functions ought, in order to preserve health, to be increased during gestation, as the *débris* of the fœtal, as well as the maternal, system have to be eliminated by the organs of the mother. Besides these forms of toxæmia, the state of the blood which obtains in fevers, or during the excitement of the first secretion of milk, may excite convulsive disorder. In all these cases the affection of the nervous system is centric, and not reflex.

These are the *Physical* causes of disease; but there is another and very effective cause of puerperal convulsion which is *Psychical* in its character. I refer to the influence of emotion.

Emotion, then, is a very important cause of centric convulsion in the puerperal state; important both on account of the severity of the attack when thus induced, the greater absence of premonitory signs, and the obstinacy of the disease as regards treatment. It is a very old and true observation, that convulsion is often met with in single women whose minds have been depressed by the sense of shame and misery inseparable from their condition during gestation. But any violent emotion of the mind, whether of joy or sorrow, the agreeable or disagreeable, may excite a convulsive attack. The return of a husband, the first sight of the infant after the hours of intense expectation, the pain and dread of parturition, or any intelligence whatever, suddenly communicated, may hurl the patient into convulsion. I myself saw a case in which a husband, returning from a distant and perilous journey a day or two after his wife's delivery, in the very act of greeting him she fell into convulsion; and instead of embracing a conscious mother, he held in his arms the rigid form of an epileptic. The fit is sometimes produced by emotional causes of a trivial character. Mauriceau relates a very singular case, in which puerperal convulsion was excited by the disgust caused in the mind of a patient by the entrance into her apartment of a coxcombical friend, whose dress was powerfully scented.

Such being the principal *Centric* causes of puerperal convulsions, let us now consider the *Eccentric*, or those caused by irritation of incident, excitor nerves, acting through them upon the true spinal marrow, and its motor nerves.

First in importance is, Convulsion from Irritation of the Uterus itself and the Uterine Passages. The statistics of labour demonstrate that puerperal convulsions occur with greater relative frequency when the head presents, than in other presentations. From this it has been inferred that its pressure on the os uteri was a principal cause; but the acute mind of Dr. Collins saw that this coincidence could not be considered as cause and effect, for convulsions frequently come on when the os uteri is entirely dilated, before the dilatation has commenced, or after delivery. Neither this eminent obstetrician nor any other has taken the pressure of the head on the vagina sufficiently into consideration, in connexion with the fact, that irritation of the vagina excites more extensive reflex muscular actions than irritation of the uterus itself. This gives a physiological explanation to the fact respecting the frequency of convulsions in head-presentations with first children, the irritation of the excitor nerves of the os uteri and the vagina being undoubtedly greater under such circumstances than any other. I might adduce numbers of cases in support of this view; in fact, any case in which all remedies have been tried in vain, but in which the convulsions cease immediately after delivery, contains its proof. It must always be borne in mind, when considering the causes of excito-motor diseases, that *irritation* of the peripheral incident nerves is not dependent on, or to be measured by, the mere intensity of pain. It has been shown again and again that the most powerful reflex action of the *vis nervosa* may be caused without any sensation whatever; indeed, in puerperal convulsions the causes operate sometimes during a state of perfect coma, or they may commence while the patient is in a profound syncope. The term irritation, when applied to spinal action, must therefore, as I have often observed, be received with its peculiar signification.

Convulsions may be brought on by the mere presence of the fœtus in utero, there being no other exciting cause; or they may occur from the causes of spinal irritation depending on the first changes which take place in the uterine system preparatory to labour, before the os uteri has commenced its dilatation. They are sometimes caused by the irritation of a dead fœtus. The mere distension of the uterus by the liquor amnii, particularly in cases where there is a large quantity of this fluid, has appeared to give rise to convulsions.

When a convulsion has once happened, the fit may be repeated from causes of uterine irritation apparently trivial. Irritation of the os uteri is one of these. Denman relates the following of a case which occurred to him:—"When the os internum began to dilate, I gently assisted during every pain; but being soon convinced that this endeavour brought on, continued, or increased the convulsions, I desisted, and left the work to Nature." A similar case was once related to me by Dr. Heming. In other cases, fits have been produced by the hand of the accoucheur in the operation of turning, or by the irritation caused by the use of instruments. Irritation of the os externum is also a powerful excitor of spasmodic action. Many women die from the violence of the convulsion caused by the passage of the child through the external parts. It has even happened that successive fits have been caused by irritation of the uterus from injudicious attempts to apply an abdominal bandage.

The following are two interesting cases of puerperal convulsions from irritation or excitation of the excitor nerves of the uterus and uterine passages, the irritation being conveyed to the spinal marrow, and reflected back on the motor nerves of the whole spinal system so as to cause the convulsions. The first is related by Dr. Ingleby :—

"A highly esteemed friend of mine once found it necessary to pass his hand into the uterus, for the purpose of removing an adherent placenta, the ergot of rye having been previously administered. The introduction was carefully performed. *The straining and opposition to his efforts on the part of the woman were exceedingly great; and at the moment when the operator's hand had reached the organ, my own hand making counter-pressure on the abdomen,* the patient became violently convulsed, and died in less than a minute."

The second is from Dr. F. H. Ramsbotham, who relates a case of convulsions in which the fits were relieved by bleeding, and the woman remained fifty hours after the attack before labour came on. In less than five hours she was delivered without any recurrence of the fits; but as the placenta did not come away, Dr. Ramsbotham was summoned, two hours after the expulsion of the child. He remarks that, "Under no greater anxiety than usual when the placenta is retained, I proceeded in the ordinary way to remove it. *The moment I had passed my hand completely into the uterine cavity,* the patient turned upon her abdomen, and without uttering any expression of pain, went into a convulsion."

Puerperal Convulsions may arise from Irritation of Intracranial Excitor Nerves. It may appear a nice distinction to classify convulsions arising from cerebral pressure on the medulla oblongata, and convulsions caused by irritation of the membranes, under different heads. Yet the one is Centric, the other Eccentric. Cerebral pressure affects the Medulla oblongata directly, meningeal irritation reaches it reflexly, so that some distinction is really demanded. The known intracranial causes of puerperal convulsion of a reflex character are, bony projections and exostoses, inflammation of the meninges, the extension of red softening of the brain to the membranes, or the extension of irritation from a coagulum in the substance of the brain. Thus, in puerperal convulsion, we have to study the brain and its envelopes under many and very important points of view; 1, as the seat of some of the most important changes which occur during the fit; 2, as the seat of an important class of centric causes of convulsion; and, 3, as the source of irritation acting upon the spinal centre in reflex forms. As a reflex cause of convulsion, we must study the brain as we would the uterus, the stomach, the intestines, &c.

Irritation of the bowels, especially of the lower part of the intestinal canal, is well known to cause convulsions under other circumstances besides those connected with the puerperal state. Thus worms, the severe action of purgative medicines, the collection of indurated fæces in the bowel, have all been known to cause epilepsy, and the convulsions of children. It cannot therefore be wondered at, that when the excito-motor system is under the additional stimulus of either pregnancy, labour, or the puerperal state, these and similar sources of excitation should cause puerperal convulsions. Gastric irritation has long been looked on as a cause of puerperal convulsions, though the true rationale has never been given by obstetric writers. Irritation of the Bladder is a less frequent, though undoubted, cause of puerperal convulsions. Other causes than those which have been given occasionally operate on the spinal system, but all act in accordance with the principles already advanced. Mr. Ingleby suspected that irritation of the Mammæ might cause convulsions. Not long since, I saw a case of puerperal convulsion for which no other cause could be assigned than excessive soreness of the nipple, with mammary induration. The Skin, too, as an important excito-motor organ, must be studied in relation to puerperal convulsions. The same may be said of the Liver, and other organs supplied by the pneumogastric nerve.

Such are the principal causes of puerperal convulsions, to the *modus agendi* of all of which the physiology of the true spinal marrow goes far towards supplying a perfect explanation; and it must be remembered that, wanting this mode of solution, the disease formed, confessedly, one of the enigmas of modern pathology. To give a summary of the whole subject, the true puerperal convulsion can only occur when the central organ of this system—*the spinal marrow*, has been acted on by an excited condition of an important class of its incident nerves—namely, those passing from the uterine organs to the spinal centre, such excitement depending on pregnancy, labour, or the puerperal state. While the spinal marrow remains under the influence of either of these stimuli, convulsions may arise from two series of causes: those acting primarily on the spinal marrow, or *centric*, causes; and, secondly, those affecting the extremities of its incident nerves, or causes of *eccentric* or peripheral origin. Though the subject admits of this division, several causes may act together, and centric and eccentric causes may be in operation at the same time. I have made no attempt at a division into predisposing and exciting, proximate and remote causes, because it is evident that a cause which in one case is the exciting or proximate, may in another be the predisposing or remote cause. Thus, irritation of the uterus may be the predisposing, and irritation of the stomach the exciting, cause, in one instance; while in another, irritation of the uterus is both the predisposing and the exciting cause; hence any such division must be, to a great extent, arbitrary and devoid of precise meaning.

In the Treatment of puerperal convulsions, we have to consider remedies which act on the central organ, the spinal marrow, and those which affect the extremities of incident spinal nerves. I propose, in the first instance, to consider the remedies of direct or centric action. Of these, Bloodletting is the most important.

The action of bloodletting on the spinal marrow is greatly modified by the condition of the circulation. In fulness of the vascular system, it is the most powerful sedative of spinal action we possess. Hence, venesection is the great remedy in the simpler form of puerperal convulsion, where the disease chiefly depends on stimulation of the spinal marrow by excess of blood, or on the mechanical pressure exerted by the blood on that organ, together with the counter-pressure of the distended brain on the medulla oblongata. In such cases, bleeding should be performed with a view to its sedative action on the spinal marrow, and to avert the mechanical effects of vascular pressure from this organ. Alone, it will frequently be sufficient to subdue the disease, particularly when the fits come on before the beginning of labour or after delivery. But another most important intention of bloodletting should never be lost sight of,—namely, that of preserving the brain from injury during the convulsion. Besides the *primary* cerebral congestion, which may have been the cause of the attack by its counter-pressure on the medulla, the convulsive actions themselves, exerting great muscular pressure on the whole vascular system, and causing, as they must, the greatest turgidity of the vessels of the head, are dangerous sources of fatal cerebral congestion, or of serous or sanguineous effusion. As in the case of epileptics, women in puerperal convulsions frequently die of apoplexy, produced by the immense pressure exerted on the cerebral column of blood during the fits. It is in great measure from the effects of bloodletting in warding off accident from the brain that bleeding is so general in this disease. The due recognition of the distinct operation of bloodletting on the cerebral and spinal systems is of the utmost consequence. In plethoric states of the circulation, it is in this disease *curative* in its action on the spinal marrow, *preventive* in its action on the brain.

In the absence of definite ideas regarding the effects of bloodletting in this malady, it has been sometimes pushed to excess, or practised where it should have been altogether avoided. In the numerous cases where, besides vascular excitement of the spinal marrow, some irritation of spinal excitor nerves exists as a conjoined cause of convulsion, repeated bleedings will often fail to subdue the disease, unless the *eccentric* irritation be at the same time removed. When irritation of the uterus, the rectum, or the stomach, is in part excitor of the convulsion, bleeding alone cannot be relied on. It may at first diminish the impressibility of the *central* organ, rendering it less susceptible of the incident irritation; but if persisted in to a large extent without the removal of the *eccentric* irritation, it becomes in the end positively injurious, by increasing instead of diminishing the excitability of the spinal marrow.

In vascular plethora, depletion is undoubtedly a sedative to the spinal system; but when the circulation is reduced considerably below par, loss of blood becomes an actual excitant to this organ. Hence it is that the reports of those who have most pertinaciously followed bloodletting, exhibit the loss of a greater number of patients than those who have been more cautious in this respect. The propriety and extent of venesection must be estimated, then, not by the violence of the disease, but by the state of the circulation in the interval of the fits, and with especial reference to the different effects of the vascular plethora, and vacuity upon the spinal centre. Patients rightly bled in the first instance, may be subjected to successive depletion until loss of blood itself becomes the cause of the final seizures.

Similar remarks would apply with almost equal force to the other parts of the common antiphlogistic regimen. Nearly allied to the *modus operandi* of bleeding are the effects of nauseating doses of emetic-tartar, which have been found so serviceable in the treatment of puerperal convulsions by Dr. Collins. It is more than probable that this remedy acts as a sedative on the spinal system through the medium of its effects on the circulation. In the convulsion occurring in delicate anæmic women, bleeding is generally inadmissible, becoming in fact, under such circumstances, an exciting cause of the disease. Still in cases approaching to this state, cautious bleeding may be sometimes necessary to preserve the brain from injury, but here venesection requires to be followed promptly by stimulants: such cases are, however, rare in comparison with those in which fulness of the circulation exists at the onset of the disease.

During the attack of convulsion the glottis is partially or entirely closed. The greatest authority on this point, Dr. Marshall Hall, questions if true convulsion could ever occur without this state of the glottis, and the cerebral and spinal congestion which it occasions. We know that the epileptic attack is sometimes worked off by the dash of cold water on the face or chest, so as to excite a sudden inspiration and the dilatation of the glottis. It is on the same principle, that of exciting a strong inspiratory act, that we stimulate the nostrils or sprinkle the face with cold water in syncope. Excitation of the incident nerves of inspiration has in the same way been known to prevent the puerperal convulsion. It is probable that in extreme cases tracheotomy may afford relief, and I should not hesitate about resorting to this operation when the patient was in danger of dying during the fit.

Harvey gives an instance in which stimulation of the trifacial nerve within the nostrils recovered a woman who became comatose during labour. Denman also relates an interesting case, in which a convulsion was excited during every labour-pain, but in which he kept off the attacks, until delivery was completed, simply by throwing water on the face with a bunch of feathers at each accession of pain. It was found that this mode of proceeding, from which he augured so favourably from its effects in this and other cases, did not prove equally efficacious on all occasions. He observes, that this is "a safe remedy," which cannot be said of all measures resorted to in this disease. It must certainly be productive of benefit in cases where the glottis is not so firmly locked as to render its dilatation by this means impossible. Even if it does nothing to prevent the accession of the fit, every time we can dilate the glottis, and cause a full inspiration, we take off a considerable amount of vascular pressure from the nervous centres, and lessen the proportion of venous blood in the system.

The application of cold is a therapeutic of some importance in this disorder. Cold, applied to the head in the form of napkins, lightly wrung out of cold or iced water, ice itself, or a full stream of cold water poured from a height, has become an approved remedy in puerperal convulsions. It therefore becomes an interesting question—How does cold water thus used act on the nervous system? It may act as a sedative on the cerebral portion of the spinal marrow, or it may lessen the distended state of the cerebral circulation, and thus relieve the counter-pressure of the brain on the intra-cranial portions of the spinal system. Probably it acts in both of these modes. When used in the form of the continuous douche, as sometimes recommended, it would, in addition, tend to excite acts of inspiration, and thus dilate the glottis. The primary sedative action of cold on the spinal centre would seem to be shown satisfactorily by the good effects of cold applied to the whole length of the spinal column in tetanus.

The application of cold to the spine as well as to the head may hereafter be found beneficial in puerperal convulsions. Whenever cold in any form is resorted to, its use, except for the purpose of exciting the respiration, must be continuous, as the intermittent application of cold, locally or generally, would excite, instead of allay, the spinal system. The benefit derivable from cold appears to arise from its local action on the nervous centres, because in tetanus, the purest form of increased morbid spinal action, cold applied to the spine is serviceable, whereas, when applied to the whole surface of the body, it is extremely dangerous, and even fatal.

Some striking distinctions must be made respecting the administration of Opium in puerperal convulsions. If a dose of opium be given in this disease in a full state of the circulation, before bleeding, there is a dangerous aggravation of the disorder; while if it be given in puerperal convulsions in an anæmic subject, or after excessive depletion, it is of great service. If in a case of convulsions opium be given at the commencement, it is dangerous in its effects; but the same medicine is frequently valuable in the advanced stage of the same case, when the vascular system has been powerfully depleted. Thus it would appear evident that in convulsions with a full state of the circulation, opium is a *stimulant* to the spinal marrow, while in convulsions with anæmia, it is distinctly *sedative*. It is certainly an important point in practice, that the effects of opium in puerperal convulsion depend on the state of the circulation; that in plethoric or inflammatory conditions it is always dangerous, while in anæmia and debility it may always be given beneficially.

The regulation of Emotion is of considerable importance in preventing the accession of convulsions when they are threatened, and in averting the return of the attacks, in the intervals where *consciousness* is retained. Mental excitement of every kind should be soothed, and avoided as much as possible. The sight of the infant, of alarmed friends or relatives, unpleasant intelligence, noises in the sick chamber, or still more trifling matters, have caused or renewed convulsions. Perfect quiet and repose within the sick room, and the absence of all signs of excitement on the part of the attendants, are of the utmost consequence; the calm or timid look of the professional man may either excite or prevent a fit.

During ordinary labours care should be taken to avoid increasing the tendency to contractions of the muscles of the neck; this is still more important in labours with symptoms of spinal erethismus, or threatening convulsion. Care should be taken that during the propulsive and expulsive stages of labour, the reflex contractions about the neck should not be increased by excessive voluntary efforts, or by violent emotional disturbance. When the neck becomes tumid at each returning pain, the reflex cervical contractions should be moderated by directing the patient, not only to withhold voluntary action of this kind, but to cry out during the pains, so as to keep the larynx open. In this way sphagiasmus and laryngismus may both be prevented by volition, in some cases. If the cervical symptoms are severe, venesection should be practised before the accession of convulsion, as a preventive measure. Whenever fulness of the neck occurs, either before or after labour, so as to create an apprehension of convulsion, blood should be taken from the head by leeches, or by cupping. There is no point of greater importance to the prophylaxis of puerperal convulsion than an attention to the state of the cervical region; it is to convulsion what the pulse is to inflammation.

On more than one occasion in the present lectures, I have spoken of the great importance of treating Albuminuria during pregnancy. By the removal of the poisoned state of the blood, we may prevent convulsions; but unfortunately when this state continues up to the time of labour, and causes the fits, we can do little towards the depuration of the blood, or removing the renal disorder. We have no sudden means of relieving a patient in such a condition, except, perhaps, to a slight extent, by puncturing the skin in situations where the local œdema is excessive. In cases complicated with albuminuria, labour should be completed as early as possible, due regard being had to the effects of the irritation which may be necessary to effect delivery. It often happens that very shortly after the expulsion of the child, the kidneys secrete an immense quantity of urine, and relieve the patient from the state of blood-poisoning.

In threatened convulsion, or after the invasion of the disease, it is of the utmost importance to seek out and remove all sources of reflex irritation. Remote causes of irritation should be sought for, and removed with the greatest care. The state of the Stomach, the Intestines, the Breasts, the Bladder, and other organs in reflex relation with the uterus, should be examined. If the fit should have occurred for the first time after a full meal, or after indigestible food, an *emetic* of the sulphate of zinc should be administered. If there should be vascular fulness, venesection ought to be performed. The bleeding should precede the emetic, to diminish the danger to the cerebrum from the action of vomiting, for emetics given incautiously have occasionally produced sudden death in puerperal convulsion. However, when the gastric irritation is undoubted, no patient should be suffered to continue in the fits with the stomach unrelieved. It may seem superfluous to urge this, but I have known cases of convulsion from gastric irritation, in which the most sedulous attention has been shown to almost every other organ in the body, except the right one. Still more important than the stomach is the state of the bowels. In convulsions the intestines are very commonly loaded; it immediately becomes a question how to relieve them without producing greater irritation by the operation than already exists from their loaded condition. The most violent drastics have been given in such cases without any ceremony, as though the more rudely the *materies morbi* were grasped, the more effective the remedy. But it is of great importance to avoid irritating the intestinal canal unnecessarily. I have known puerperal convulsions produced by giving a brisk cathartic too soon after delivery. In fact, there is little difference between irritant drugs and irritant fæcal matter. Therefore, whenever the bowels can be opened without purgatives administered by the mouth, but by aperient *enemata*, the latter are greatly to be preferred. When we give a cathartic, we never know how long it may remain to fret the bowels, but an enema is sure to return almost immediately. Washing out the bowel is less irritating than drastic cathartics, and often effective in removing fæcal accumulations. A copious enema of warm water, repeated until free evacuation has been produced, has sometimes relieved convulsion. If the warm water injection should be insufficient, castor oil or turpentine may be added. Sometimes the constipation is so obstinate as to refuse to yield either to enemata or cathartics, and the contents of the bowels positively require to be dug out. I have seen a case of this kind in which their excavation was followed by the almost instant relief of violent convulsions. The state of the bladder should always be attended to in puerperal convulsion, particularly as, during the insensibility of the intervals, the patient is unable to inform the attendant of its distended condition. This may be a slight thing to mention, but the catheter has sometimes relieved convulsion when the lancet has failed.

But the great seat of reflex irritation in puerperal convulsion is in the parturient canal. There is only one direct mode in which uterine irritation can be allayed during puerperal convulsion, except by the removal of the fœtus. This is by removal of the liquor amnii. In cases of puerperal convulsion, puncturing the membranes takes off a considerable amount of distension from the uterus; diminishing the size of the organ, and the quantity of blood circulating through it. Hence, though it renders the uterus more active, by bringing its parietes into contact with the fœtus, it renders the organ itself less irritating to the general spinal system. The evacuation of the liquor amnii is to the uterus what the partial action of an emetic or an enema is to the stomach and intestines. In convulsion from uterine irritation, much may be done by the avoidance of all unnecessary dilatation and interference with the vagina and os uteri. During convulsions, all operations upon the parturient canal, whether they consist of examinations, dilatation of the os uteri and the vagina, the artificial removal of the fœtus, or the extraction of the placenta, should be performed with the greatest care, and with the remembrance of the ease with which renewed fits may be excited by any irritation of the uterine passages.

The relation of Artificial Delivery to puerperal convulsion is a matter of deep interest. Some obstetricians have recommended that it should always be performed by turning, craniotomy, or the forceps, when the fits are obstinate and severe. In deciding this point, the particular characters of individual cases must be considered. The general principle which we may deduce is, that whenever artificial delivery can be effected with less irritation than would be produced by the continuance of the child in the parturient canal, and its expulsion by the natural process, it is advisable that it should be performed, if the situation of the mother be perilous. It must be with reference to this principle—namely, to the irritation of any particular operation, and the irritation of labour itself—that turning, craniotomy, or the forceps, must be decided upon. All these operations have destroyed patients; and, on the other hand, numbers have died undelivered, from uterine irritation. The question of interference is one for which no arbitrary rule can be laid down, but which must be decided in each individual case by the particular circumstance, due reference being had to the excitability of the uterus under the stimulus of the fœtus, and under artificial interference. The point to aim at should be, never to produce more irritation than we remove, and not to destroy the patient by an excessive temporary irritation instituted for her permanent relief, by the entire evacuation of the parturient canal. Of course, the greater the operation necessary for delivery, the greater is the deliberation necessary before it is commenced. In manipulating upon the uterus under such circumstances, we must never for a moment lose sight of its reflex connexion with the spinal marrow. Such appear to me to be the principles upon which we must attack the uterus in puerperal convulsion.

LECTURE XLI.

PUERPERAL FEVER.

About three thousand mothers die in childbed, annually, in England and Wales. This is an average of nearly eight deaths every day from this cause. The proportion of maternal deaths to the births, registered in several years, was found to be 1 in 171. This mortality, it must be remembered, occurs for the most part to women in the prime of life, and previously in the enjoyment of full and vigorous health. Amongst the causes of death during the puerperal period, the disease we are now considering is, of all others, the most important and fatal. The fatality from child-bed fever is, however, in the present day, moderate, when compared with the epidemics of former times, in which, of those attacked, positively none recovered; but though it is still little amenable to treatment, when it exists, there is reason to hope that Preventive Medicine may hereafter almost, if not entirely, eradicate this formidable disease.

The histories of puerperal epidemics and outbreaks show great diversity in the symptoms and progress of the disorder at different times. This disease evidently varies with the constitution of disease at the time it prevails, being at one time intensely inflammatory, at another time putrid, in its form. In some seasons and places the liver, in others the peritonæum, in others the uterus, in others the intestinal canal, have been attacked; and in some of the worst examples, pathology has found no other change after death than fluidity and altered colour of the blood. It may be said, in fact, upon a review of the numerous descriptions of puerperal fever, that there is hardly a form of fever or inflammatory disease which it has not, to some extent, resembled in character. The great diversities witnessed in this disease have led modern observers to assert that under the term "puerperal fever" many different and separate diseases had been described, such as phlebitis, peritonitis, hysteritis, enteritis, typhus fever, remittent fever, erysipelas, toxæmia, and other forms of disease. The tendency has been, in modern times, to dwell upon the special manifestation of the disease, and to consider that all the various phases of the disease depend on some local disorder, or upon some specific combination of morbid phenomena. One after another, various morbid conditions have been thought to form the chief part of the disease. At the present day, the doctrine of uterine phlebitis may be said to hold this kind of pre-eminence, and there is a general tendency to consider that all the local and constitutional symptoms and pathological changes arise from this source.

The more puerperal fever is investigated and tracked, as it were, to its elements or origin, the less satisfactory does any partial or local explanation of its nature become. In the progress of such examination, it appears more and more evident that there is a puerperal POISON to which the lying-in woman is liable, and which produces all the varied phenomena of puerperal fever met with in different epidemics, localities, seasons, and constitutions. In one time or person, peritonitis is produced; in another, metritis; in another, phlebitis; in another, mammary or other abscesses; in another, low fever; in another, intestinal irritation; in another, dissolution of the blood, without a trace of local inflammatory disorder; and so on throughout the list of local or special disorders which have been described by authors in puerperal fever. It may be questioned, even, if phlebitis ever occurs without a poisoned condition of the blood, produced either as the result of contagion, epidemic influence, or the absorption of putrid matter from the uterus.

Thus, in the earliest pathological arrangements, a great number of disordered states were grouped together as Puerperal Fever, without attempt at discrimination or analysis; next came a laborious separation of the different forms and manifestations of the disease; and the subject seems at the present time ripe for allying the numerous affections met with in puerperal fever together, in their origin from a common cause—namely, some Animal Poison, or Zymotic Influence.

Of the occasional Sporadic appearance of puerperal fever and its allied disorders, there can be no doubt. In all seasons, taking large communities, or large areas, isolated cases are met with in different localities, and in the practices of different medical men, where single patients are attacked, and where the disorder is not so severe as to extend itself by contagion or infection. In these cases, when the poisonous element is produced by the patient attacked, it probably originates from the state of the blood incidental to delivery, or depends upon the absorption of irritating or putrid lochial discharges, decomposed coagula, or portions of retained placenta. A single case produced in this way, may become contagious, and cause the disease in other patients, through the medium of nurses or attendants. It seems to be clearly made out, that in cases of this kind, and, indeed, in all cases in which contagion or infection is concerned in the propagation of puerperal disease, the risk of the spread of the disorder is greater in proportion to the adynamic type of the cases which first occur. In inflammatory cases, the risk of the communication of the disease is less than in the purer forms of fever. The most convincing proof of the sporadic origin of some cases of puerperal fever is found in those instances in which single cases occur, and no other cases happen either in the neighbourhood or at about the same time.

As distinct from the sporadic appearance of puerperal disease, we have Epidemics of puerperal fever, or puerperal inflammation, in which the disease, in its various complications, rages in certain hospitals or districts, being very dangerous at the onset, attacking the patients of different medical men simultaneously, prevailing for a certain time, and then becoming weaker and more manageable in type, until it at length disappears altogether. Epidemics of puerperal fever originate in the crowding of puerperal women together; and in the epidemic prevalence of erysipelas, hospital fever, typhus, or other disorders allied in their nature to the puerperal disease. In epidemics of this as well as other disorders, it is exceedingly difficult in any given case to prove whether it arises from epidemic or contagious influence. The best proof we have of the existence of puerperal fever in an epidemic form, is drawn from those examples in which the disease appears in certain towns or districts and affects the patients of all the medical men alike, but is certainly not confined to the practice of one or two accoucheurs. It is observed that when puerperal fever prevails epidemically in the human subject, the lower animals die in large numbers of diseases connected with parturition.

Besides the sporadic and epidemic appearance of this disease, we have, in my opinion, evidence as irrefragable as that which can be advanced in the case of any other malady whatever, that it sometimes rages as the result of Contagion and Infection. Those who deny the influence of contagion, magnify the facts relating to the sporadic and epidemic prevalence of this disorder, and seek to apply them to the universal explanation of cases in which contagiousness appears most manifest. It is natural, observes Dr. Farr, for any man to shrink with horror from the supposition that he has communicated so fatal a disease to his patients, and to be disposed to receive any other explanation than that which refers it to contagion. Nevertheless, the interests of truth and humanity demand that the evidence of the contagiousness of puerperal fever should be put prominently forward.

The following are examples of the kind of evidence which exists in proof of the contagiousness of puerperal fever, and it may be necessary to state that facts of a similar kind to those now advanced might be multiplied to almost any extent :—

A practitioner, for instance, had been attending cases of typhus fever. Within the space of four days he delivered five women. All these women were attacked with puerperal fever, and all of them died. This was in a country practice, and the cases were remote from each other. Different practices intersected the practice of this medical man at various points, but no other cases were known to have occurred in the neighbourhood. Again, a patient suffering from typhus fever was admitted into a lying-in hospital, where she remained for a few hours only. In the beds on the right hand and the left of this patient were two lying-in women; both were attacked almost immediately with puerperal fever, and both died. Take another case : a medical man was in constant attendance upon a patient suffering from gangrenous erysipelas, and between the 8th of January and the 22nd of March he attended the labours of ten women; all had puerperal fever, and eight of the patients died. This was in a town of moderate size, and no other patients in the place were known to have had puerperal fever. In another recorded instance, two medical men, brothers and partners, attended in the space of five months twenty cases of midwifery. Of these, fourteen were affected with puerperal fever, a fatal result ensuing in eight cases. The only other known death from puerperal fever, in the same town, within the period named, occurred in the case of a patient attended by a medical man who had assisted at the post-mortem of one of the puerperal patients. During this disastrous period, the two brothers relinquished all their midwifery engagements for one month, in which time five of their cases were attended by other practitioners, and no instance of fever occurred in the course of that month. They then returned, and several fatal cases again happened. It is difficult to imagine anything more conclusive as regards the doctrine of contagion. A curious history in point is related by Dr. Ingleby. Two practitioners attended a post-mortem where the patient died from this disease. One was summoned in one direction to a midwifery patient, who was attacked with puerperal fever; the other attended two cases in succession, both of whom were seized with the same disease. Dr. Robertson relates perhaps one of the most cogent instances of contagion and fatality on record. In the space of one calendar month, a certain midwife attended twenty cases belonging to a lying-in charity; of these, sixteen had puerperal fever and all died. The other midwives of the same charity, working in the same districts, attended in the same time 380 cases, none of whom were affected with puerperal fever. In a large town containing many thousands of inhabitants, and numerous medical men, fifty-three cases of puerperal fever occurred. Of these, no less than forty happened in the practice of one medical man and his assistant.

In the face of such facts as these, it does not become us to hesitate, or give out an uncertain sound respecting the contagiousness of puerperal fever. It is better to know the worst, fear the worst, and guard against the worst, than to harbour undecided opinions. I have known several instances where medical men, believing in the non-contagiousness of the disease, or hesitating between the two opinions, had gone on attending patient after patient with fatal results, until convinced of the mistake they had fallen into by successive deaths. No doubt sporadic and epidemic seizures are sometimes mixed up with those of a contagious origin, in such a manner as to require much clearsightedness to penetrate the confusion; but the facts of contagion are, as it appears to me, placed beyond all question, and should never be lost sight of by practical accoucheurs.

Those who oppose the view of the contagious nature of the puerperal fever, argue that the cases which seem most conclusively to demonstrate the communicability of the disease from one patient to another by the attendants, really depend on epidemic influences. They point also to the occasional sporadic appearance of single cases in different parts of the same city or district, in the practice of different medical men. It is also insisted upon that in some cases lying-in women have been exposed to the influence of surgical fever, or have been present in wards containing patients ill of peritonitis, without contracting puerperal fever. The very intensity of the contagious principle has been used as an argument against the existence of contagion. It has been said—How could any poison cling to an accoucheur for several weeks, as in those instances where medical men meeting with puerperal cases have relinquished practice for awhile, but on returning have brought the disease back with them? Great stress has been laid upon personal experience, as in the case of Dr. Meigs, who attended as the consulting physician upon numerous cases in an outbreak of the disease which occurred to another practitioner, but Dr. Meigs himself never took the disease to any of his own patients. It appears to me that these difficulties are much more easy of explanation than the difficulties attending those cases in which contagion seems to be most convincingly proved. Some persons may be more liable to convey infection than others, just as one individual is more prone to infection than another. At certain times, from reasons which we cannot understand, but which we know must exist, the human organism is in such a state that exposure to infection and contagion does not affect it. Perhaps one of the strongest arguments in favour of infection or contagion is drawn from the preventive treatment of the disease. All the great reductions in the mortality have arisen from measures calculated to remove infection and contagion. In the course of a few years the mortality in the great hospital of Vienna was reduced from 1 in 10 to 1 in 74 of the mothers delivered, by the precautions taken to prevent the inoculation and infection of lying-in women. In this country the disease is much less formidable than it formerly was—a circumstance which is greatly owing to the care taken in preventing the spread of the disease by contagion and infection.

It is further necessary to insist upon the fact, that the contagious principle in the case of puerperal fever, is not limited to the transmission of puerperal fever, nor to the communication of infection from one puerperal patient to another, either directly to the lying-in woman or by attendants or nurses, but that it may be conveyed in the shape of several other Animal Poisons. One of the most remarkable points connected with the puerperal poison is the fact, that setting aside its sporadic and epidemic appearances, it may, in the first instance, originate from a variety of causes external to the patient herself. When once produced in this manner in single cases, it may be propagated amongst puerperal women by infection and contagion. The exposure of puerperal patients to the influence of Hospital Gangrene will produce the disease. Medical men in attendance upon cases of Erysipelas have given their patients puerperal fever. It has been made out very conclusively by Semelweiss and others, that the miasms derived from the Dissecting-room will excite puerperal disease. Exposure of the puerperal woman to the poison of Scarlatina will give rise to puerperal disease in patients proof against the reception of scarlet fever itself. The mortality amongst child-bed women seized with Small-pox is well known, and such patients die with the symptoms of puerperal disease, in addition to the variola. With respect to the disorders named, and probably others also, such as putrid sore-throat and sloughs or abscesses, some law evidently exists by which they may all be respectively converted into the puerperal poison. In some cases, puerperal fever and erysipelas have been observed together at the same time, and in the same patient.

A curious circumstance connected with the poison of puerperal fever is, that it may be communicated in other forms to the nurses, or attendants, and even to males. The husbands of puerperal women may be attacked by sore-throat, erysipelas, or typhus fever. Within the last few years an accomplished physician-accoucheur of this metropolis was cut off suddenly by putrid fever, after examining a woman suffering from puerperal disease. In some of the cases where the same medical man has lost numerous cases in succession, as many men and women have died from fever or erysipelas, as those who have perished from the puerperal disease. Thus, we have evidence that erysipelas, gangrene, fever, &c., in males, or unimpregnated women, may produce child-bed fever, and we have the converse proof that this fever may excite other dangerous disorders, as the result of contagion, in non-puerperal persons.

How is this subtle poison conveyed from person to person? In what media of communication can it lurk? Through what channels can it reach the puerperal woman? The clothes, hair, and touch of the person exposed to the poisonous influence have been supposed to be the chief means of infection and contagion; but very remarkable cases are on record, such, for instance, as when the accoucheur has shaved his head, changed the whole of his clothes, cleaned himself by hot baths and vapour baths, and soaked his hands in disinfecting solutions, and yet he has taken the malady about with him. I believe that in such cases the blood of the person acting as the medium of infection is affected, and that by the breath a certain halitus or infectious influence is given out, which acts upon the blood of the puerperal woman through her lungs, and thus conveys to her system the germs of the disease. As this point has a practical bearing of some importance, I desire in this place to make a few observations which may explain the position I have assumed.

If we attend a post-mortem when the smell is peculiar, if we spend some time in a lying-in room where the odour of the lochia is very strong, or if we go into any very powerful smell, the taint evidently enters the body by means of the lungs, and can be perceived subjectively by the taste or smell, or its odour can be distinctly perceived in the saliva, in eructations from the stomach, or in the urinary, cutaneous, and other secretions. Although the party thus affected may have been exposed to the miasma or smell but for a short time, his blood gives evidence of infection for many hours, or in some cases for several days afterwards. Some habits are more prone to receive and retain this kind of infection than others. It remains so long in some cases that the odour would seem to have a power of sustentation or reproduction, otherwise it is difficult to suppose that an odour to which the lungs have been exposed, it may be for a few minutes, can infect the blood and all the secretions for twenty-four or forty-eight hours. If we can trace in this way the influence of a bad odour, surely we may admit that the same thing may happen with reference to the wonderfully subtle poison or germ in puerperal fever, or those influences which are evidently convertible into the puerperal poison, and manifest similar results in the lying-in woman. I believe that the blood of the accoucheur may take up a dose of puerperal poison without manifesting any special results in his own system, and that he may communicate it through the medium of the lungs to his patient. In the case of a poison so subtle, the air we breathe unites the circulations of the accoucheur and patient, and renders them, as it were, one. This is probably one great mode in which animal poisons generally are diffused. We know that the blood of persons attending patients in scarlatina, measles, and small-pox is infected, although they are proof against the disease; and in one remarkable instance we have the positive proof that the blood is the medium of infection. I refer to cases in which pregnant women who have had small-pox in childhood, and are proof against infection, but who, on being exposed to the poison, convey the disease to the fœtus in utero. Here the blood of the mother must be the medium of communication between the patient suffering from small-pox and the ovum hidden in the womb, and the lungs of the mother must be the channel by which the poison enters the circulation. This illustrates very well what I mean by saying that the blood of the accoucheur, or attendants, is one great medium which conveys the poison of puerperal fever. The saturation of the blood of the accoucheur, nurse, or midwife, may remain for a considerable time; for cases are on record in which every case attended by certain individuals for weeks or months has been affected by the disease. A practical point deducible from these remarks is, that in attending lying-in patients, after the slightest exposure to the puerperal poison, or to any miasma which can be converted into this poison, or its equivalent, in the lying-in woman, we should be especially careful not to go so near as to establish any communication between the lungs of the practitioner and patient. In saying this, I do not mean that other means of conveying the poison, as by clothes, hair, and the surface of the body, should not also be guarded against.

The fiercest outbreaks of this disorder have occurred in lying-in hospitals, or in hospitals where lying-in women are received with surgical and medical cases, and where erysipelas, gangrene, or fever have prevailed. On this account many have doubted whether lying-in hospitals are not mischievous rather than otherwise, in the present limited state of our knowledge of the means of preventing puerperal fever. Women confined even in misery and squalor in their own homes are less liable to this disease than patients collected together in hospitals, even when the greatest care as regards cleanliness and ventilation is observed. All lying-in women should, as far as possible, be removed from the neighbourhood of any contagious epidemic or infectious disease. It should be a rule of the practical accoucheur to have as little as possible to do with any of the animal poisons which give rise to puerperal fever. He should avoid autopsies, especially in cases of death from child-bed fever, or ordinary inflammation. The student should not attend midwifery cases while he is dissecting. After an attendance upon any suspicious case, the practitioner should change his clothes, or have them hung up in a room exposed to the fumes of chlorine: I have no doubt it would be useful for him to inhale the diluted fumes of chlorine several times a day, and after touching anything connected with any source of danger, to rinse his hands in a solution of chloride of lime or chloride of zinc. It is impossible to be too scrupulous, in a matter of such moment, and I have known some accoucheurs who, on entering a lying-in room, always wash their hands before making an examination.

In the next Lecture I propose to consider the special characters of puerperal fever in its various manifestations, and the rules of treatment.

LECTURE XLII.

PUERPERAL FEVER.

GENTLEMEN,—In the last Lecture, I stated briefly the evidence and facts which favour the view that all the different forms and manifestations of puerperal fever depend on a specific poison, arising in some instances sporadically; in others prevailing epidemically; sometimes due to the zymotic influence present in erysipelas, typhus, gangrene, surgical fever, and some other diseases; communicable from patient to patient by the attendants; and whose earliest known effect is a disordered state of the blood of the child-bed woman. I now proceed to describe the different secondary disorders traceable to the puerperal poison.

In the Adynamic form of puerperal fever, the effects of the poison are seen in their most terrible and virulent form. This type of the puerperal disease has prevailed in the most ravaging epidemics, and also in those outbreaks in which the contagious spread of the disorder has been most demonstrable. Occasionally, patients have been struck by the disease during the course of labour, or within a few hours after parturition.

In other cases, two or three days have elapsed before the invasion of the disease. In the worst cases, patients become at once delirious or lethargic, the pulse being very rapid, from 120 to 140 in the minute, and feeble. Occasionally, acute pain is complained of, but more frequently there is in the worst cases little suffering beyond a feeling of indescribable anxiety and depression; sickness and vomiting of coffee-ground matter sometimes distresses the patient. The countenance is commonly sunken and dusky, or deeply pallid, with the dark circle round the eyes strongly marked. The skin is not above the usual temperature, but covered with clammy perspiration. Tympanitic distension of the abdomen rapidly supervenes. Rigors or shiverings may or may not be present. There is little or no sign of reaction, and in the worst cases the patients die in a state of collapse within a short time from the first seizure. Of 88 cases recorded by Dr. Collins, death occurred in 2 cases in 24 hours, in 1 in 27 hours, in one in 36 hours; 9 died on the second day, and 15 on the third, so that 24 perished in less than 72 hours. Dr. Ramsbotham states, in the worst cases this disease is more rapidly fatal than any other disease met with in this country, except cholera. Mr. Hey mentions a case in which death followed in less than eighteen hours.

When, from the less virulent action of the poison, or the strength of the patient, the disease is more protracted, the same symptoms are present, but in a milder form and degree. The invasion of the disease generally begins on the second or third day, and is commonly ushered in by shivering. There is in the earlier stages increased heat of skin. The tongue is sometimes coated, at others red; but, as happens with every variety of puerperal fever, cases are sometimes met with in which, from the commencement to the termination, the tongue remains tolerably clean. The prostration is less profound, and there is pain in the abdomen. Profuse sweating is a very common and distressing accompaniment of the disorder. In some cases this is so strongly marked, and constitutes so large a part of the disease, that Dr. Blundell described it as a distinct form of puerperal fever, under the name of Hidrosis. The sweat and the breath are very often accompanied by a sweetish pus-like odour. The sweating of puerperal fever does not diminish the secretion of urine, nor does it abate the quickness of the pulse. An intolerable thirst prevails, and the patient drinks immense quantities of whatever fluid she may be allowed. Dark spots or ecchymoses appear upon the wrists or other parts of the body. After two or three days, profuse diarrhœa occurs, but though it often appears to be critical in its nature, it brings little or no relief, and the patient is harassed by frequent dejections and vomiting. The lochia are commonly but not invariably suppressed. More frequently, the breasts become flaccid and without secretion; but this is not always the case. The pain is often intermittent, even in cases where it is most severe, sometimes giving the attendants and the medical practitioner the hope that it may be of the nature of after-pain. In some of these cases the mind is remarkably clear, until towards the termination of the disorder. One of the most constant and distressing symptoms is tympanitis. This comes on more rapidly, the more acute the disease may be, and soon rises to such a height as to interfere with the action of the diaphragm and heart. The patient may, in a few hours, become larger than she was before delivery. Considerable quantities of flatus may be discharged, but no diminution of size is perceptible, the distension appearing to depend on an immense secretion of air by the mucous membrane, with paralysis of the muscular coat. In the course of the disease, obscure symptoms of uterine inflammation, with enlargement of the organ, or of peritonitis, pleuritis, or pneumonia, are met with. When the disease proceeds to a fatal termination, the patient succumbs to exhaustion, the action of the heart becoming more frequent and feeble, congestion of the lungs, or effusion into the pleural or pericardial cavities takes place, and low delirium or coma is present for some time before dissolution. In the rare cases, which terminate favourably, the sweating, purging, or diuresis, appears to relieve the patient, and she slowly recovers from a state of great debility, remaining long afterwards in a condition of extreme debility both of mind and body. In comparatively rare cases, the chief symptoms of the disease are gastric, bilious, and enteritic irritation, but these are amongst the more favourable forms of puerperal disease.

The morbid changes met with after death are very various. In the most rapidly fatal cases, nothing has been met with beyond non-coagulability, thinness, and blackness of the blood. The blood in these cases resembles that of persons killed by lightning or hydrocyanic acid. There may be no signs whatever of any local inflammation, or disease of the uterus or other organs. In the less virulent and more protracted cases, purulent infection of the blood has been detected, and pus has been found in the veins and other structures of the uterus. Congestion of the lungs, gangrenous abscess of their organs, or effusions of mixed pus, serum, and lymph into the pleuræ, have been observed. In some cases, spots of ulceration in the stomach and intestines, or purulent collections in the liver and kidneys, are recorded. Abscesses in the omentum have been frequently found, so have effusions of sanious pus and feebly organized lymph in the peritoneal cavity, particularly about the uterus and its appendages. The internal surface of the uterus and the muscular structure have been found softened and in a state approaching to gangrene, particularly the posterior part of the organ.

It has been mentioned that sporadic cases of puerperal disease are sometimes caused by the absorption of sanious lochial discharges, or the decomposition of coagula or portions of retained placenta within the uterus. There is also another mode in which sporadic puerperal fever may occur. There is some peculiarity about the state of constitution which obtains in pregnancy and parturition, tending to assimilate numerous other affections to the puerperal type. It may be seen, that in the case of a healthy pregnant woman attacked with small-pox or scarlatina, before abortion or premature labour is produced, the disease begins to assume the puerperal type. At any other time than after parturition, the presence of putrid matter in the uterus does not excite any great constitutional disturbance, as witnessed in the case of polypi removed by ligature. Any inflammation of the os or cervix excited by a difficult labour, or peritonitis caused in the first instance by the violent contractions of the uterus, has a strong tendency to run into puerperal fever. After the Cæsarian section, the patient suffers from an almost exact likeness of puerperal fever. Dr. Simpson very ably draws a comparison between puerperal and surgical inflammations and fevers, and refers this similarity to the resemblance which exists between the uterus after labour and a wound after a surgical operation. No doubt this is true to a great extent, particularly as regards the occurrence of phlebitis. But there is in the pregnant and parturient woman a state of constitution which predisposes her to the formation of some virus or poison, capable of producing the puerperal type even before delivery, or even before the commencement of labour. This is the case after mechanical injuries of the gravid uterus. It is observed, in cases of peritonitis, pleuritis, or any other visceral inflammation occurring during pregnancy. Before the uterus has been excited to expel its contents, there is an approach to the peculiar puerperal type of disease. If a gravid woman be attacked with erysipelas, she suffers from the symptoms of puerperal fever or inflammation before the birth of the child, and the infant may, when born, be affected with erysipelas, and die within a few hours after birth. Thus, then, it seems capable of demonstration that, apart from the state of the internal surface of the uterus after parturition, and especially that part of it from which the placenta has been separated, there is in the habit and constitution of the gravid woman, some peculiarity which, under numerous circumstances, produces the virus or poison which gives their characteristics to the multiform varieties of puerperal inflammatory and febrile disease. Amongst the predisposing causes of puerperal fever in any of its forms, anxiety of mind and depressing emotions during pregnancy or at the time of labour hold a very prominent place. This is strongly insisted on by Dr. Fleetwood Churchill and many other writers. Undoubtedly this cause is a main agent in the production of some of the sporadic cases of this disease. Dr. Churchill observes, "Several of the worst cases I have seen were mainly attributable to this cause."

In many cases of puerperal fever, Peritonitis of a more or less acute form constitutes the chief part of the disease. In some epidemics, inflammation of the peritoneum has been so universal as to give rise to the opinion that peritonitis formed the essence of puerperal fever, and puerperal peritonitis and puerperal fever came to be used as almost synonymous terms. This was very much the state of medical opinion up to the time when Guthrie, Bouillard, and Dr. David Davis initiated the doctrine of phlebitis and purulent infection of the blood, so ably and laboriously worked out by Dr. Robert Lee. Recent outbreaks of the disease have not manifested the peritonitic type so strongly as previous epidemics, but cases not unfrequently occur, in which the peritoneal disorder is the chief local manifestation of disease.

In puerperal peritonitis or puerperal fever with peritoneal inflammation, the disease usually commences within two or three days after parturition, and seldom longer than a week after labour. Cases are on record, in which it has commenced before the beginning of labour, or during the course of parturition. I have already referred to the influence of contagion and infection in producing this form of disease. Patients with easy labours, and without a sign of inflammatory disorder, may have puerperal peritonitis as the result of contagion or infection, when exposed to erysipelas, gangrene, or any of the disorders mentioned in connexion with the production of puerperal fever. It may also arise from injury of the peritoneum during the course of violent labours, or from exposure to cold. When caused in these modes, it is almost universally converted into the febrile puerperal type. In some cases it is an extension of disease from the parietes or internal surface of the uterus, and in others it is a result of uterine phlebitis. The disease may involve the whole peritoneal membrane, or it may be localized in the neighbourhood of the uterus, Fallopian tubes, and ovaria.

The symptoms of puerperal peritonitis are generally in stronger relief than the symptoms of any other form of puerperal fever. Tenderness, pain, and exquisite sensibility of the abdomen to the touch, particularly in the neighbourhood of the uterus, is generally observed. Yet pain is not always present. On the contrary, it is entirely wanting in some of the most rapidly fatal cases, and where post-mortem examinations have proved peritonitis to exist. Dr. Ferguson found that out of 173 cases, this symptom was absent in 19. The pulse is invariably rapid, remaining throughout the course of the disease at from 120 to 140. This is the symptom which in every variety of puerperal fever never fails of expressing truly the condition of danger. It has often been remarked, that whatever the other indications may be, the puerperal woman is never safe whose pulse rises steadily above 100. In puerperal peritonitis, the pulse is quick from the termination of labour, and it has been observed that where the disease is threatened, the subsidence of the circulation which is natural after labour does not take place. This rising of the pulse is the earliest symptom of peritoneal inflammation. Before the commencement of pain, rigor or shivering almost invariably occurs. Sometimes it does not amount to more than a prolonged creeping over the surface of the body; at others, it is so marked that the teeth chatter, and the patient asks to be held in bed, so violent is the muscular shuddering. While the rigor is most distressing, the surface of the body is little if at all below the natural standard. The state of the tongue is variable—sometimes red at the edges, with a white streak in the centre, at others coated or red, and sometimes without much decided alteration from the natural state. When the other tissues of the uterus are involved, this organ is swollen, and can be felt distinctly and painfully, until the rising tympanitis disguises it. There are cases in which the uterus attains a very large size, after having contracted subsequent to labour. The tympanitic distension which ensues is often very great, and the swelling of the abdomen is further increased by effusion of sero-pus into the cavity of the peritoneum, when the surface acquires a peculiar doughy or boggy feel. Sickness is very constantly present in this disease, and adds greatly to the suffering of the patient, from the compression of the abdomen by the efforts at vomiting. Dysuria is complained of, and the urine is scanty and high-coloured. As the disease progresses, purging commonly supervenes, the motions becoming dark and offensive towards the last. Throughout, the breathing is short and painful, and cephalalgia is often present. Beyond this, the brain is frequently unaffected until the close of the disease approaches. The physiognomy is from the first distressing and pinched, so as to be almost of itself characteristic of the disease. No one who has ever seen the disease can mistake the indications afforded by the countenance and the pulse. The dark areola surrounding the eyes, the dilated pupil, the glassy surface and bloodless conjunctiva, give a lustrous and unearthly appearance to the eyes in all cases of puerperal fever, whatever the special complication, when the disease is fully formed. Occasionally in this disease there is an appearance of the sudden transference of disease to the pleura, and, more rarely, to the serous membranes of the brain. When the peritoneal inflammation is chiefly limited to the uterus and its appendages, the symptoms are somewhat less severe, and the pain more local, than in general peritonitis, being felt most distinctly in the iliac regions, and sometimes on one side only. With the local peritonitis, there is generally inflammation of the broad ligaments, the sub-peritoneal cellular tissue, the Fallopian tubes, and the ovaria. Suppuration and abscesses sometimes form in these structures, and in the most favourable cases either burst spontaneously on the surface of the lower part of the abdomen or into the vagina or rectum, or they sometimes admit of puncture and artificial evacuation. A fatal result is almost invariable when pus is formed in any considerable quantity upon the peritoneal surface.

The pathological changes consist of effusions of pus or of lymph, rarely so highly organized as after ordinary peritonitis, sero-purulent effusions and abscesses of the surface of the uterus or its appendages, or of the omentum. In many cases, the uterus is found diseased, the inflammatory disorder having extended from the uterus to the peritoneum, or, in some cases, from the peritoneum to the uterus. Softening of the parietes, patches of gangrene, abscesses in the walls, and collections of pus in the veins of the uterus, are met with.

One of the greatest, if not the greatest, advances ever made in the pathology of puerperal fever consists in the knowledge we have obtained, in recent years, of the existence of Uterine Phlebitis as a very common and destructive form of puerperal disease. The occurrence of uterine phlebitis and suppuration of the veins in isolated cases had long been known, but no other inquiries, as far as I am aware, have at all equalled the researches of Dr. Robert Lee in this particular department, and it is to his extended investigations that we chiefly owe the establishment of the doctrine of uterine phlebitis as it occurs after parturition. Others have, as I believe, with truth, controverted Dr. Lee's views of the entire dependence of puerperal fever upon uterine inflammation and phlebitis, and it may, I think, be shown, that where phlebitis exists, it is, in almost all cases, an expression of constitutional disorder, and especially of a poisoned or diseased state of the blood, rather than an idiopathic disease. The researches of Dr. Ferguson and others prove that puerperal fever may destroy patients before there has been sufficient time for the occurrence of phlebitic inflammation, and that in such cases no pathological changes beyond a diseased state of the blood are met with. Many facts in the history of puerperal fever prove that before the purulent infection of the blood, believed by Scanzoni and others to constitute the essence of the disease, has taken place, changes have occurred in the circulating fluid, which may in some cases destroy the patient long before the suppurating stage has been reached. The experiments of Dr. Mackenzie, and the cases he has collected, show that healthy obstructive inflammation of the veins, the result of simple traumatic injury, does not result in purulent infection of the blood, but that a morbid state of the circulating fluid is necessary to the production of pyæmia.

Uterine phlebitis generally commences on the second, third, or fourth day after labour, with shivering or rigor, and a marked increase in the thickness of the pulse, which ranges throughout from 110 to 140 and 150. There is usually pain in the hypogastric, or one of the iliac regions, the pain becoming more evident upon deep pressure. There is also pain in the back, or in one or both hips, extending downwards to the thighs. The pain is generally intermittent, and is sometimes absent for many hours. The patient is usually anxious to be quiet, every movement of the body greatly increasing the pain when this symptom is present. But in a considerable number of cases the pain alone is not so considerable as to indicate the dangerous state of the patient, and in some instances it is absent altogether. The lochia may become offensive at the commencement of the disorder; they may be scanty, or they may remain in normal quantity and quality. The mammary secretion is usually suspended; but in some cases it continues until the patient is exhausted by the progress of the disease. The perspiration is very distressing and constant, and after three or four days from the commencement of the attack, diarrhœa is generally present. At intervals, throughout the course of the disease, violent rigors are felt, which may be supposed to mark successive formations of pus, or the commencement of inflammation in other organs beside the uterus. The state of the tongue is very variable, and it may be red and glazed, covered by a creamy fur, or scarcely altered from the natural state. The complexion of the patient is at first little altered, except by the presence of a hectic spot on each cheek. The mind is clear, but the speech and movements of the patient are tremulous. The patient often sleeps tolerably well, and frequently expresses herself as feeling better; but her manner is anxious and trembling, thanking those about her so nervously for the slightest attention, that her state in this respect has often been compared to the incipient stage of puerperal mania. The tympanitic distension of the abdomen is not the least distressing symptom, giving rise to hiccup, vomiting, and greatly interfering with the respiration and the action of the heart.

As the disease progresses, the secondary phenomena of uterine phlebitis and the formation of pus within the veins become evident. The patient complains of pains in some joint or joints; swellings appear in the neighbourhood of the articulations, and erysipelatous blushes appear on the skin in different parts of the body. The hips, knees, shoulders, and elbows are the joints most commonly attacked. Large suppurations in the vicinity of the joints occur, or patches of slough or gangrene form at the sites of the erysipelatous blushes. Sometimes the secondary inflammation attacks the eye, especially the left, leading to rapid destruction of the cornea. These external suppurations, however painful and exhausting, are considered somewhat in the nature of crises, and as giving some faint hopes of recovery. Up to this point, up to the time in fact when external suppuration begins, it is acknowledged by the best authorities that we have no positive signs by which we may be sure of the existence of phlebitis. This is stated with great candour by one of the latest and best writers on the subject, Dr. McClintock, of Dublin. In other cases, the secondary inflammations and suppurations are internal, and attack the lungs, liver, kidneys, omentum, or other organs. These complications are more dangerous than the external secondary abscesses. These phenomena cannot exist without the pyæmia of which they are the results, indicating its constitutional effects. When pus is present in the veins, the inflammatory symptoms subside to a considerable extent, and adynamic or typhoid symptoms manifest themselves. It is necessary, however, to distinguish between the low state of system thus produced and the somewhat similar condition which exists in the first instance, when the puerperal virus is very potent, and before any inflammation or suppuration has progressed in the veins. When patients recover, they slowly struggle through the exhaustion produced by the extensive suppurations, and may remain blind or with anchylosed joints to bear witness to the terrible ordeal through which they have passed. When a fatal result ensues, the patient dies with symptoms very similar to those described when speaking of the adynamic form of puerperal fever, or exhausted by the discharges consequent on the external suppurations.

The tendency of the puerperal and other forms of pyæmia to attack the joints, is a very remarkable feature of this affection. Large effusions of pus and sero-purulent fluid are poured out in the joints affected, and the cartilages are often eroded and destroyed to a remarkable extent. No explanation has been given of the reasons why the joints, the eyes, or the serous membranes should be especially selected. I would suggest the probability, that this selection may depend on the nourishment of parts of the eye, cartilages, and serous membranes, by the non-vascular permeation of the tissues by the liquor sanguinis, as explained by the researches of Mr. Toynbee. The diseased liquor sanguinis, or the liquor puris, in purulent infection of the blood, may easily be supposed to affect especially those tissues of the body in which special provisions exist for their permeation by the colourless parts of the blood. One of the earliest, as well as one of the most graphic descriptions of puerperal affections of the joints we owe to Mr. Coulson, who has described the dissection of numerous cases of this kind.

Besides uterine phlebitis, other forms of puerperal inflammation of the uterus occur. That which affects the Lymphatic vessels does not materially differ in symptoms, progress, and termination from phlebitis. Inflammation of the Muscular tissue and lining membrane of the uterus is characterized by great disturbance of the nervous system, distressing cephalalgia; and is attended by fever of low type. Occasionally the cerebral symptoms are so intense as to entirely mask the uterine disease. It is ushered in by the same symptoms as regards rigors, acceleration of the pulse, and state of tongue, as those which attend the other varieties of puerperal inflammation. Its tendency is to produce softening, suppuration, and gangrene of the substance of the uterus, and it is one of the most fatal of all the puerperal inflammations.

Before speaking of the Treatment of Puerperal Fever in its varied forms, it cannot be too much insisted on that it is a disease, almost above all others, open to *Prevention* rather than *Cure.* The avoidance of injuries of the uterus or vagina in difficult or instrumental labours, the entire removal of the placenta, and the promotion of a free lochial discharge, with the avoidance of the possibility of inoculating or infecting the puerperal woman with any of the poisons which admit of conversion into the puerperal poison, are of the greatest importance in preventing the appearance or extension of this terrible disease. As regards the actual treatment, nothing can be more different than that which has been most successful, or best borne in different epidemics, and at different places and times.

The opposite extremes of puerperal fever—namely, the peritoneal and inflammatory, and the adynamic, are those which most distinctly admit of positive rules of treatment. In puerperal peritonitis, copious venesection, the free use of leeches, mercurials, opium, fomentations and stupes, or warm poultices to the abdomen, counter-irritation, and mild aperients, are the means upon which we must depend. The bleeding must, however, be prompt to be of service, and its extent must be measured by the powers of the patient and the intensity of the disease. A full bleeding to twenty or thirty ounces at the onset of the disease will do more to relieve the patient than any subsequent treatment. She should be bled in the upright position to incipient syncope, and the bleeding should be repeated in a few hours, or the abdomen covered with three or four dozen leeches. At the same time, calomel with opium or Dover's powder, should be given in repeated doses at small intervals, with a view to the production of ptyalism, or mercurial inunction should be resorted to. When general and local blood-letting have been carried as far as the patient will bear, and when the disease continues, a large blister over the abdomen is of great service. In all cases of puerperal peritonitis, there comes a time, unless the patient has been rapidly destroyed, in which stimulants are required, and this time comes much earlier in puerperal than in ordinary peritonitis. It is only in the most acute forms of puerperal peritonitis that such an active plan of treatment as that now indicated is admissible. In peritoneal disorders of a lower type, depletion must be more sparingly employed, and a tonic plan earlier resorted to.

In the most adynamic cases of puerperal fever, a stimulating treatment must be adopted from the first, and wine, brandy, ammonia, and quinine are required. The only antiphlogistic remedy that can be resorted to in such cases, is blistering. In milder or more mixed cases a small bleeding at the very commencement is sometimes called for, or the application of a few leeches, but as the patient passes rapidly into the low stage of the disease, support and stimulus become necessary. The treatment is little different from that required in marked cases of typhus.

In phlebitis, the employment of bleeding is a vexed question. Some authorities have strongly recommended early bleeding, and others have opposed it, advocating a tonic regimen, and directing all their efforts to the preservation of as healthy a state of the blood as possible. In one instance in this metropolis bleeding was tried on a large scale in a lying-in hospital, where venesection was performed on the very first approach of the disease, and the mortality was greater than when an opposite plan was adopted. In the present state of our-experience in this disease, bleeding appears to be called for at its commencement, when the pain is acute, and the pulse rapid. But this disease is often so insidious, and its progress attended by such remissions, that it is difficult, if not impossible, to decide on bleeding until distinct evidences of pyæmia have appeared, when bleeding becomes injurious rather than otherwise. As soon as this becomes evident, cinchona, nitric acid, chlorate of potash, ether, ammonia, strong animal broths, and wine, are agreed on by all authorities as the best line of treatment. Pain must be allayed by opiates, and the painful joints bathed with opiate embrocations or a chloroform liniment. When collections of matter are evident upon the surface, they should be opened, and it is believed that the external discharge of pus adds somewhat to the chance of recovery. Congestion of the lungs or brain must be met by sinapisms or blisters, and the meteorismus relieved, as far as possible, by carminatives, turpentine enemata, or the introduction of a tube into the intestinal canal. It is impossible to do more than lay down general principles, and indicate the points of treatment, within the scope of a lecture. A patient suffering from the disease now under consideration will tax all the resources and all the vigilance of the most able and painstaking practitioner.

Clinical Lecture
ON
CONCUSSION OF THE SPINE.

Delivered at St. Bartholomew's Hospital,

By FREDERICK C. SKEY Esq., F.R.S.,

SURGEON TO ST. BARTHOLOMEW'S HOSPITAL.

Gentlemen,—No man who has observed the general issue of causes subjected to legal inquiry, involving questions connected with medical science, can fail to be struck with the inefficiency of such a tribunal to deal with the case, or to extract by any form of examination, the solid substance of the issue under consideration. It is very difficult to give due weight, in a legal court of justice, to important and striking facts in medicine, on the recognition of which a true decision may entirely hang. We cannot infuse medical feeling into the legal mind. The habits—the very atmosphere—of a court are against us. It may be perfectly true that "doctors differ," but doctors differ only in their respective modes of reaching the common goal of all doctors—viz., truth. The lawyer fights for victory. The weapons he employs are legal learning, eloquence, tact, knowledge of human character; he accustoms his mind to make the worse appear the better reason; he exerts his powers of mind, his tact, his eloquence, to rouse the convictions of others, while his own convictions remain untouched by his own reasoning, and the weaker the cause to be upheld, the greater the exercise of forensic power to make it triumph. It cannot be asserted that the object of such contentions is truth; for though truth may be the more general issue, yet the aim and struggle are for victory and victory only. This is not the theatre for medical considerations; lawyers cannot comprehend us. Prompt a counsel learned in the law with all the care due to any complicated medical inquiry, and he will often fail to elicit from his witnesses even the most striking features of his case; and so long as questions hinging on medical opinions are determined in courts of law the evil will prevail. The remedy is obvious—viz., that of a court in which a knowledge of medical science should be rendered indispensable, and of men who should undergo a sound medico-legal education, which will alone enable them to cope with questions which blend medical with legal acquirement.

A court bearing this character sat at the Old Bailey on the occasion of the trial of Palmer. Here every barrister, and, indeed, every judge upon the bench, educated himself to the level of the great question under consideration. It is, I believe, well-known that one at least of the eminent men who presided at that important trial, entered personally on a wide field of inquiry and investigation, and every leading counsel had fortified himself by oral or written instruction. It is almost incredible with what rapidity most eminent lawyers absorb knowledge of the scientific kind, and I doubt whether, at the expiration of the trial, the doctors had much advantage over the members of the sister profession in respect to the knowledge of the subject lately investigated.

But on ordinary and less important occasions, how is it possible that this knowledge can be even attempted to be acquired? The brief on which you often hear a barrister descant with force and volubility of speech has been delivered into his hands on his entering the court; and, indeed, except on great occasions, rarely earlier than the day before. How, then, is it possible that anything short of some form of medical education can qualify him for the niceties of medical or surgical inquiry?

An action was recently tried in the Court of Queen's Bench, which involved the question of damages claimed by the plaintiff against a railroad company, for an injury he is supposed to have sustained in consequence of being knocked down by one of the company's carts. The injury was termed "concussion of the spine," and the damages were laid at £2000.

I visited this gentleman about a week before the trial, in company with several other medical men. In conversation with himself and through the statements of others, I obtained a full insight into all the particulars of his injury and its consequences, and after the jury by their verdict declared their own disbelief in the existence of this formidable disease, I am very doubtful whether the learned and very eminent judge who presided at the trial, and the counsel for the plaintiff, himself a man of well-merited eminence in what he justly called his noble profession, and for whom there exists less excuse, because his mind has been cultivated and enriched by the study of our also noble science,—I am doubtful whether these eminent persons do not to the present hour believe that full justice was not done to the plaintiff by the damages awarded by the jury.

In the statement of the case of the plaintiff, I shall confine myself to such particulars, whether medical or moral, as grow out of a medical view of it, noting only such evidence as would come within the range of an ordinary medical inquiry, by a surgeon desirous of forming a correct opinion on a case submitted to him.

The plaintiff, aged about forty, was struck down in the middle of the day, by a cart, proceeding at the speed of between nine and ten miles an hour, down a slight descent. The pace is declared, by two persons who witnessed the accident, both of whom asserted, in a later part of their examination, that the cart was brought to a stand-still, at a distance of three yards from an omnibus, opposite to which the accident occurred.

The plaintiff, so struck down, was assisted in his effort to rise by the conductor of the omnibus, and he immediately commenced a remonstrance with the driver of the cart on his careless conduct. This natural ebullition of most just anger being exhausted, he got into the omnibus, having to attend a christening party at some distance. On taking his seat he discovered an acquaintance among the passengers, with whom he conversed on his journey, and on alighting he walked a distance of a quarter of a mile, to join the festive party at his friend's house. With that party he ate, and he talked, and he wisely, as I think, consumed some champagne: he afterwards lay down on the sofa, and, to use his own term, he fell into a stupor. But the stupor was, happily, but temporary, for he continued to participate in the festivities of his friend's house till a late hour. When urged to avail himself of a vehicle standing at the door for the purpose of conveying him to his own residence, he declined, on the ground that a walk in the open air would do him good, and he walks home, a distance of three-quarters of a mile.

On the following day, having seen no medical man whatever, he writes to the proprietors of the cart, and "demands satisfaction" for the violence done him by their servant, stating that he was seriously injured, that his nerves were shaken, and that he had "concussion of the brain and spine," from which it was probable he would "never recover." He calls in a medical friend retired from practice, but his friend is absent from town, and so far as could be learnt from his friend's communication, he did not appear to consider the plaintiff's life seriously endangered.

In three days he leaves London for the sea-coast, declining the medical aid proffered by the proprietors, with the assurance that "he knew his own case better than any medical man could do." In a week he returned to town, still complaining of his back and his nerves. He said he had tingling of his hands and feet, that his nervous system was shaken, and his intellectual functions were greatly impaired. He was now examined by a medical man, deputed by the cart-proprietors, who asserted that the plaintiff complained of some pain about the shoulder and tenderness over the two last cervical and two first dorsal vertebræ, and he was offered a lotion, but the lotion was respectfully declined. It is the opinion of this medical gentleman that the plaintiff did not at the time appear to be in a very suffering condition. It was not until upwards of three weeks from the date of the accident that the plaintiff consulted his own medical attendant, by whom, in conjunction with an eminent surgeon, he was attended up to the date of the action. During the interval between the accident and the trial he visits the sea-side three times. It is proved in court that he amused himself by rowing, not restricting himself to the quiet waters of the harbour, but boldly contending against the sea waves (!) on a shore not remarkable for its placidity. He also enjoyed the diversion of snipe-shooting!

I visited him, in company with other medical men, about ten days before the trial, by direction of the proprietors, and heard his case stated by his medical friends. He confirmed the statement made by them, but added other important indications. Amongst these was an affection of the bladder. He said he was annoyed by frequent micturition during the night, which he attributed to his inability to sleep! He said he had passed blood by stool, but afterwards acknowledged he had previously suffered from piles! He said his intellectual functions were impaired, and that he could not undertake the duties of his profession. Observing that he had severe pain in his back, I requested permission to examine it. He moved both arms with perfect freedom, and raised them up with equal force considerably beyond the horizontal line. This movement must necessarily have drawn largely on the actions of the trapezius muscle, which we all know arises from all the dorsal vertebræ. On pressing the *fifth dorsal spinous* process, he expressed considerable pain. Shortly after the accident, he had referred this pain to the *two last cervical and two first dorsal vertebræ*. It would appear that the pain had shifted to the extent of three vertebræ during the treatment. Amongst other symptoms of a somewhat inexplicable character, he said his legs were drawn up and he could not extend them to the ground. He stated that his muscular system was wasted, but he acknowledged he could walk with an effort, at that time, one mile and a quarter; but he added that after the effort it was necessary that he immediately rested on the sofa. His locomotion was cautious and deliberate, and I was only surprised that a person who appeared so ill could indulge in exercise on so large and dangerous a scale. The consultation being concluded, I left the house with the firm conviction that the case in question was not that of concussion of the spine, and on the following grounds:—

I have yet to learn that symptoms of concussion of the spine can appear at any interval of weeks, days, or even hours, after, *unless they existed in some form or other, at the moment of the accident.* I never heard of such an occurrence; I have looked into books of authority; I have consulted persons of knowledge and of experience, who have never witnessed such an example of disease. During thirty years the records of St. Bartholomew's have failed to note it. It is contrary to all analogy and to all reason. We all know that a severe blow on the head may be followed at an interval by symptoms of *compression* of the brain caused by extravasated blood, but I am speaking of concussion only. This one feature in the case influenced my judgment very considerably, because it is undeniable that the plaintiff was perfectly in possession of the faculties of his mind immediately after the fall, as evinced by his instant remonstrance with the man to whom he owed it. He walked; he talked; he joined a festive party, instead of returning, or rather of being conveyed, to his own home, and confined to his bed for many weeks. Now let us examine other symptoms, and ascertain how far they tally with the universally recognised symptoms of concussion of the spine; and first, let me give you a brief sketch of the true indications of this serious injury. A man sustains a blow, and is thrown down to the ground. On attempting to rise, he finds his muscles no *longer* obedient to his will. If he rises unaided, he totters in his gait, and struggles onwards for a few paces and falls. What is yet a more common occurrence is, that he makes no attempt to rise. His limbs, or more probably his legs only, are the seat of paralysis, partial or complete. The muscles of his abdomen may be involved, and commonly his bladder fails in its function as an *expulsor*, rarely or never as a mere *reservoir*, and his urine is drawn off daily with the catheter. From this condition he rarely recovers under a period of from one to three months. The following case bears out the above description:—

John C——, aged thirty, was brought into the hospital on the 3d of January, 1856, having sustained a severe fall from the window on the first floor of a house. It appeared from the statement of persons around that he had fallen heavily on his trunk, and had rolled over. (Evidence of this nature is not very valuable, and not to be invariably relied on; nor indeed is it available to any good purpose, however truly it may be reported.) The poor fellow complained of being severely bruised, and suffering much pain. His intellect was clear and undisturbed. His arms were not involved in the injury; both muscular power and sensibility were perfect. His lower extremities were totally paralysed as regards their motor power, and their sensibility, though not destroyed, was considerably obtunded. His back exhibited no marks of external injury. In the course of a few hours it became obvious that his bladder had participated in the injury, and on the introduction of a catheter, half a pint of urine was drawn away from him. A dose of castor oil was ordered, and the man was cupped on the loins to the extent of twelve ounces.

Jan. 5th.—Pains a good deal relieved; paralysis of lower limbs unaltered; bladder relieved by means of the catheter twice a day.

7th.—Symptoms as before. Opium plaster to the loins.

During the ensuing ten days he was ordered tincture of the sesquichloride of iron, forty minims; dilute hydrochloric acid, ten minims, in infusion ef quassia, twice a day. Warm baths; two blisters to the loins.

24th.—Strychnia, one-sixteenth of a grain, in sufficient confection, three times a day.

This mode of treatment appeared to be attended with some success. He gradually recovered both sensory and motor power in his legs and bladder, and by the latter end of February he walked about the ward on crutches. He was discharged convalescent on the 24th of March.

This is the reality. Now let us look at the mock article. The evidence of a severe and injurious shock to his system is entirely wanting. The plaintiff's muscles, however shaken at the instant, were perfectly under his control at the moment of the accident, and except from his verbal assurance to the contrary, up to the moment of his appearance in court. In "true concussion," the lower part of the body only is affected, unless in cases of extreme severity, which is not here assumed; but the plaintiff complains of tingling in all his limbs, as though the upper extremities were equally affected with the lower. Moreover, who ever heard of inability to extend the lower extremities as a symptom of any disease? Again, what claim has the plaintiff to tenderness of the vertebræ in concussion of the spine? There is some little mistake here. I almost always doubt this same tenderness of the spinous processes as an indication of real disease; whereas, what symptom so common in hysteria? Suppose a man to sustain a fall, and injure his back,—to walk, to row, to shoot, for three months, at the expiration of which time, how would you explain local pain on moderate pressure of the fifth dorsal vertebra? Would you not unhesitatingly declare it *hysteria*, or nothing at all? Look again at the bladder. How can mere irritability, attended by frequent micturition, bear upon concussion of the spine? What surgeon of any experience ever heard of frequent micturition as the concomitant of concussion? In fact, there is something ridiculous in a man coming into court, and subjecting himself during a period of some three-quarters of an hour to a rigid cross-examination, who professes to have so lately been the subject of concussion of the spine, and especially so when the injury was so great as to involve not only his four extremities and his bladder, but his intellectual powers also. Gentlemen, you may rely on it that there exist many diseases, and this is one amongst them, the symptoms of which are so palpable, that they declare themselves instantly and at a glance. *The very question of their existence is almost tantamount to a negative.* If you will take the trouble to refer to my work on Operative Surgery, you will find that I do not now express that opinion for the first time, and it is practically the opinion of most men experienced in surgical, and I suspect in medical disease also.

Now, the question is, if this be not a case of concussion of the spine, of what nature is it? I will not venture, from respect to my own character, to charge a member of a high profession with dissimulation and imposture. Far more charitable would it be to characterize the entire group of symptoms as belonging to the class neuralgia; to believe them the product of a condition of nervous system, hereditarily or primarily weak in its construction, to which is superadded a mind possessing some share of imaginative power. This view appears to me the only one which will solve the difficulty. There is another alternative, but I will not adopt it.

Clinical Lecture

ON THE

SEVERAL FORMS OF LITHOTOMY,

Delivered in the Toronto General Hospital, Canada West, during the Winter of 1855–56.

BY W. R. BEAUMONT, F.R.C.S., ENG.

LATE PROFESSOR OF SURGERY IN THE UNIVERSITY OF TORONTO.

EXTRACTION FROM THE BLADDER OF FOREIGN BODIES WHICH ARE NOT CALCULOUS FORMATIONS; ALLARTON'S OPERATION PERFORMED FOR THE EXTRACTION FROM THE BLADDER OF A PIECE OF GLASS TUBE, $2\frac{3}{16}$ INCHES LONG. RAPID RECOVERY.

GENTLEMEN:—For about ten years preceding the last two or three, I was in the habit of delivering, once a week, in the Toronto General Hospital, a clinical Lecture on Surgery, and I shall again take much pleasure in doing so, by which I shall bring before you the most important surgical cases which may come under my care. At first I propose to speak to you of a series of cases of lithotomy and lithotrity, and of a few other cases of operations on the urethra. Lithotomy is the name which for more than twenty centuries has been applied to all forms of operations for the removal of vesical calculi by *incision*. It is the operation of "cutting for the stone." Lithotrity, which is of very recent invention, is the breaking of a stone into fragments small enough to be expelled, or extracted from the bladder through the unencised urethra. Lithotomy, at different periods, and by different operators, has been performed in many different ways:

1st, and oldest of all, we have the method described by Celsus, called the Celsian, or lithotomy by the "apparatus minor," which latter designation it acquired from the few instruments used—viz., a scalpel and a hook. It is also called "cutting on the grip." The index and middle fingers of the left hand are passed into the rectum, the stone is felt, and pressed by the fingers into the neck of the bladder, and towards the surface of the perinæum, and then, without a staff, an incision is made through the perinæum and neck of the bladder upon the stone itself, by which opening the stone escapes, or is extracted by a hook. This method of operating was practised by Ammonius, of Alexandria, 250 years or more before the Christian era.

2nd. In contradistinction to this we have the Marian operation, invented by Johannis de Romanis about the year 1520, and shortly afterwards published by Marianus Sanctus, and which, from the number of instruments used, was called cutting with the "apparatus major." Allan, in his work on lithotomy, calls this "the cruellest and most bloody operation that ever was performed on the human body." It might be cruel, but not the most bloody. A grooved staff was passed into the bladder, its convexity turned towards the left side of the perinæum. An incision was then commenced *immediately* behind the scrotum, on the left side of the raphé, and carried backwards *to within two fingers' breadth of the anus.* Next, the accelerator urinæ was cut, and the bulbous part of the urethra opened, the incision being continued through the adjoining part of the membranous portion of the canal. The rest of the urethra towards the bladder, and the neck of this viscus, were then dilated by instruments to an extent sufficient to extract the stone. It was, no doubt, a cruel operation for the extraction of a large stone, and ill devised for the extraction of any, but with Allarton's modifications, I believe it is neither cruel nor injudicious, for the removal of *small* stones.

3rd. There is the lateral operation; that which has been and still is, the most frequently performed. It has been so named from the incisions being made on one side of the perinæum, prostate, and neck of the bladder, the left side, for convenience, being chosen. Some say that it originated with Frère Jacques, a French ecclesiastic, who first operated in Paris, in 1697, and afterwards, upon an immense number of patients, it is said, nearly five thousand, at first with an enormous loss of life, but afterwards, when he had studied the anatomy of the parts, with the most extraordinary success. Carpue states, and it appears, correctly, that we are indebted for this operation, not to Frère Jacques, but to Pierre Franco, of Provence, who lived about 150 years before the former.

4th. There is the bilateral, in which both the lateral lobes of the prostate are cut. This operation was sometimes performed by the late Baron Dupuytren, the greatest French surgeon of his day, and, I believe, devised by him also. It has the advantage of making a larger opening in the prostate than that which is made in the lateral operation, and may, therefore, be desirable in cases where an unusually large stone is to be extracted.

5th. There is the supra-pubic, or high operation, which, it is said, was first performed in Paris, in 1475, by Collot, and as an experiment on a criminal, who recovered from the operation. The first account of this mode of operating was published by Pierre Franco, about the year 1560. Franco first performed it, and successfully, on a child, in whose bladder he found, *after performing the lateral operation*, a stone too large to be extracted by the wound in the neck of the bladder and perinæum. It would seem from this, that Franco had performed the lateral operation long before the time of Frère Jacques. In the high operation, an incision is made between the pyramidales abdominis, and then the anterior aspect of the body of the bladder is opened above the pubes, and in the mesial plane. It is only justifiable in cases of enormously large calculi, and has very rarely been performed since the lateral operation was improved by Raw, Cheselden, and others, about 120 or 130 years ago.

6th. There is the recto-vesical operation, which was proposed in the sixteenth century, in a work published at Bâle, under the assumed name of Vegetius, of whom Haller writes: "Jubet per vulnus intestini recti et vesicæ aculeo lapidem ejicere." About forty years ago, M. Sanson revived this operation in France, and it was performed by him, and also by Baron Dupuytren, but not with an average satisfactory result, a large proportion of patients dying soon after the operation, or else recovering with a recto-vesical fistula. In this operation Sanson, by his first method, cut the sphincter ani, and the adjoining part of the rectum, after which he incised the bladder immediately behind the prostate. Another method which he proposed was, after dividing the sphincter ani, to incise the membranous and prostatic portions of the urethra and the neck of the bladder, in the mesial plane, carrying his knife along the groove of a staff held exactly in this plane, which must be by far the best procedure of the two. This operation, like the supra-pubic, seems only desirable in cases of very large calculi. For the extraction of such, Sir Benjamin Brodie expressed a preference for this form of lithotomy over the high operation.

7th. There is Allarton's operation, which he first performed in 1840, and twice since. It is a modification of the Marian method. These three cases were highly successful, the patients being convalescent in a few days. The mode of operating I will detail to you in a case I am about to relate. It is said that M. de Borsa and Manzoni, in Italy, have lost only one patient out of a hundred after a nearly similar operation.

8th. There is the recto-urethral operation, which differs very little from Allarton's—merely in the division of the sphincter ani, which part is not cut in Mr. Allarton's mode of operating. Mr. Lloyd, about eight months ago, performed the recto-urethral operation, at St. Bartholomew's Hospital in London, on a man, aged twenty, and without a bad symptom resulting. Some other methods of performing lithotomy have, no doubt, occasionally been adopted, but those which I have mentioned, are the only modes of operating which have obtained any consideration in the profession.

The case to which I am about to call your attention is, I believe, unique, as the patient is probably the first into whose bladder a glass catheter has been passed. I am glad to say that the idea was his own, and not that of a member of our profession. Mr. Richard N——, aged twenty-six, a muscular healthy man, residing in Brampton, near Toronto, was admitted into the Toronto Hospital as a patient on the 8th of November, 1855, having a piece of glass-tube in his bladder, which he supposed was about an inch and a half in length. For a year before he had been in the habit of passing for himself an elastic catheter, having, or supposing that he had, stricture of the urethra. A glass-blower being in Brampton, my patient had the misfortune to conceive the idea of a glass catheter, and to get one made. This instrument he had used for a month safely, but at last broke it, in the act of withdrawing it from his bladder, which happened the night before his admission into the hospital, the piece being, he believed, at the time of fracture, partly in the urethra, as he could touch it with a wire not long enough to reach the bladder. From the time of the accident micturition had been frequent, and caused him much pain as he finished emptying his bladder, and some blood followed the urine at each act of micturition. The broken end of the glass was, no doubt, pressed by the contracting bladder against its mucous membrane, and scratched it at each evacuation. He had, therefore, some of the prominent symptoms of stone—viz., frequent and painful micturition, and a slight discharge of blood immediately after each act. On admission, I passed very slowly and gently a No. 11 silver catheter, but did not touch the glass, so that I was sure it was not, as the patient supposed, partly in the urethra. In two or three days, by continued recumbence, and by voiding his urine as he lay on his back, he became much more free from pain, and blood ceased to flow after micturition. This relief probably resulted from the piece of glass falling from the neck of the bladder into its posterior fundus, where its broken extremity would be less liable to be pressed during micturition against the mucous membrane. I directed him to send for the remainder of the tube, in order to compare it with the piece I might extract from his bladder, but it could not then be found.

With the exception of urinary calculi, surgeons are very rarely called on to extract foreign bodies from the bladder, and when this does happen, such bodies are usually the nuclei of stones. Sir Benjamin Brodie, in his work "On Diseases of the Urinary Organs," says that he once assisted Mr. Keate in an operation for the removal from the bladder of a cylindrical piece of sealing-wax, several inches long, which operation was performed soon after the wax had been passed into the bladder. South, in his translation of Chelius, states that Mr. Cline, sen., operated at St. Thomas's Hospital, in London, in February, 1812, for the removal of a bullet from the bladder of a sailor, who had been shot in action in the July preceding. The ball was found encysted on the left side of the bladder, much flattened, having passed through the ilium, and a small piece of bone adhering to it. The patient recovered quickly. My friend and colleague, Staff-surgeon Widmer, has also told me of a gentleman of our profession, Dr. P——, who many years ago lived in Toronto, and who, long before this time, when engaged in the Excise service in Ireland, was shot, the bullet lodging in the bladder, from which it was abstracted by the usual operation for stone, I believe, by Sir Philip Crampton. Of all kinds of foreign bodies lodged in the bladder, I cannot conceive of any so fearful as a long and broken piece of glass, not only as regards the injury it may do to the bladder, but also as regards the difficulty of its extraction.

For the removal of the piece of glass tube, in Nichols's case, I performed, on Nov. 15th, Allarton's operation—i.e., the patient being placed in the usual position for lithotomy, and chloroform having been administered, I passed a large staff into the bladder, and with it felt the glass. The staff (grooved on the convex side) was held in the mesial plane and hooked-up towards the symphysis pubis. Whilst pressing from the rectum with the point of the left index-finger on the apex of the prostate, and against the staff, I pierced the raphé of the perinæum, *close* to the anterior margin of the anus, and carried the point of the knife, its back being towards the rectum, into the groove of the staff, as nearly as I could guess, close to the front of the prostate, to hit which part with the point of the knife, is, in my opinion, the most difficult step of the operation. I next, in withdrawing the knife, made an incision in the mesial plane, cutting through the membranous part of the urethra to the extent of half an inch or more, and extending the incision through the raphé of the perinæum for an inch and a quarter in length; so that part of the external sphincter, and the point of junction of the transverse perinæum were divided, and possibly the spongy tissue of the bulb at its posterior and lower part. I next passed a large probe along the groove of the staff into the bladder, and the staff was withdrawn. I then very gradually, by a semi-rotatory motion, passed my left index-finger along the probe into the bladder, and felt the piece of glass-tube lying near the neck of the bladder, and across the mesial plane. The prostatic portion of the urethra soon became more dilated, and I was able to pass by the side of my finger a pair of polypus forceps, the blades of which I had grooved lengthwise, and lined with leather, the better to hold the glass, and to guard against its breaking when grasped by the forceps. I had no difficulty in seizing the glass crosswise, but it was only after a dozen attempts or more that I caught it endwise, in such a manner that the long axis of the tube was in the same right line with the long axis of the forceps, and then there was no difficulty in extracting it. When seized in any other manner, its extraction was of course impossible. The operation was therefore, as I had predicted, very long, and difficult of accomplishment. The amount of bleeding was about the same as is usual in the lateral operation. I passed an elastic catheter, No. 12, through the whole course of the urethra, and left it there. He took immediately half a drachm of Battley's solution.

Nine hours after the operation, I found that he had a rigor, and the urine had been bloody, flowing chiefly through the catheter, which, though so large, did not prevent some urine passing by the wound, which caused him unusually great smarting. His pulse was but 84.

Twenty hours after the operation, the catheter was removed, having caused much irritation. The urine now passed freely through the urethra, but none by the wound. He felt well, his appetite was good and his pulse 84.

Thirty hours after the operation I found that he had had another rigor, followed by fever, and he was at this time in a profuse sweat. His pulse was 104, full and soft. The urine was copious, and none passing by the wound.

Two days after the operation, his pulse was quicker—108 to 112; but he had slept well, had eaten his breakfast, and had no other constitutional disturbance besides an accelerated. circulation. The urine was copious, free from blood, but deposited a little adhesive mucus, and again began to pass, in some measure, by the wound. The presence of the piece of glass in his bladder, and the operation of its extraction, had no doubt caused a very minor degree of inflammation of the mucous membrane of the bladder.

Three days after the operation, the bowels having been freely acted on by small doses of calomel and jalap, the pulse fell to 80, and he was evidently doing well.

Five days after the operation, he said that he could hold or pass his urine at will, above half of it, however, flowing through the wound at each time of micturition. The right testis had gradually become much swollen and tender, which condition, he said, began soon after the operation. The cause of this was, no doubt, the violence done to the prostatic portion of the urethra, affecting the right vas deferens (the cord was tender), and, through it, the testis.

Ten days after the operation, he was up and walking about, and no urine had passed by the wound during the last three days.

Two weeks after the operation, he voided his urine in as large a stream as ever he did, and in every respect naturally. The wound was healed a week after the operation, and remained so. The testis was still a little enlarged, but not painful. Six leeches had twice been applied over it, and he had taken small and frequent doses of tartarized antimony.

On the 30th of November, fifteen days after the operation, he left the hospital, feeling quite well but somewhat reduced in flesh and strength. The fractured surface of the piece of glass tube extracted from his bladder exactly corresponds with the fractured surface of the remainder of the tube, and therefore it is certain that there can be no fragment remaining in the bladder. The piece extracted was in his bladder between seven and eight days, and is now seen to be thinly incrusted with a phosphatic deposit, the surface of the interior of the tube being nearly all covered, whilst the exterior is incrusted only at the broken extremity. The rapidity with which foreign bodies, lodged in the bladder, become incrusted, varies in different cases; but where there is a large secretion of adhesive mucus, a phosphatic deposit very soon covers the surface of the substance exposed to contact with it and with the urine.

Clinical Lecture

ON

SOME OF THE EFFECTS PRODUCED BY CARIOUS TEETH.

Delivered at the Leeds School of Medicine, Jan. 24th, 1857.

By SAMUEL SMITH, Esq., F.R.C.S.,

SENIOR SURGEON TO THE LEEDS GENERAL INFIRMARY, AND LECTURER ON MIDWIFERY AT THE LEEDS SCHOOL OF MEDICINE.

Gentlemen,—On the present occasion it is my intention to describe to you some of the effects produced by carious teeth, the causes of which are occasionally overlooked by practitioners; and I am induced to do this by the occurrence of a case which came under observation on my last admission-day.

Case 1.—Elizabeth H——, aged forty, was sent from some distance in the country to this Infirmary, December 12th, 1856, to be treated for what she was told by a medical practitioner was a cancerous tumour in the cheek. On examination, a tumour, the size of a small chestnut, was found, with an ulceration of the mucous membrane, just fitting the sharp edge of one fang of a carious molar tooth of the lower jaw, which was making its way from the gum. Being fully assured, from former experience of many cases of a similar kind, that this was the sole cause of the tumour and ulceration, I removed the tooth, and in your presence promised her it should be well in a few days. A little lotion was ordered for the mouth. She appeared again on the next out-patient day, Dec. 17th. The ulceration was healed, the tumour gone, and she was discharged cured.

Now, gentlemen, I tell you that if the cause of that tumour had been overlooked, no treatment of any kind would have been of the least use; it would have continued, it would have increased, and gone on from bad to worse for months, and possibly for years, unless the tooth had been removed by the efforts of Nature. I could tell you of scores of cases like the above; one more shall suffice.

Case 2.—A gentleman from a distant town, where there is a large hospital, happened to have his leg broken in Leeds, and was in lodgings under my care. His wife came to attend upon him, and she consulted me about an ulcerated tumour in the cheek, which had existed a long time, and for which she had had the advice of several surgeons, and various applications used without advantage. I detected one fang of a carious molar of the lower jaw laid horizontally on the gum, but adherent and embedded in it, with the ragged point fitted into the centre of the tumour. I pushed it away with my pencil-case, and the tumour disappeared in a few days. Both these patients were under the impression that they were suffering from cancerous disease.

Sometimes, instead of the cheek, the tongue suffers from the same cause. I have detected many cases of this kind. One interesting example shall be sufficient to explain such cases to you.

CASE 3.—More than thirty years ago, one out-patient day, my senior colleague (Mr. Hey) informed me that a few days previously he had incised a malignant-looking tumour from the tongue of a young countrywoman, who was a private patient of his; that, to his surprise, in a few days the tumour had sprouted out as large or larger than before the operation; that, as she was not in circumstances to pay consultation fees, he had requested her to be in the house-surgeon's room at twelve o'clock, in order that he might ask Mr. Chorley's opinion, along with my own, on the case. On that day Mr. Chorley did not come to the Infirmary, and I went with Mr. Hey to see his patient. There was a foul, dark, fungoid tumour, which occasionally bled, and from which she suffered much pain during every attempt to speak or masticate food; it was the size of a small walnut. On examining it with the finger, I detected two broken incisors (the middle and left lateral of the lower jaw) leaning inwards, and with sharp-pointed edges fitting into the centre of the tumour. I was immediately convinced that these two teeth were the cause of all the mischief, and stated that opinion to Mr. Hey, who appeared doubtful. I said that he would not be justified in applying the ligature, or using any other means, without first waiting to see the effect of the removal of the two broken carious teeth. I never saw the young woman again, but I was informed by Mr. Richard Hey that the teeth were drawn, and soon afterwards the tumour entirely disappeared, without any other means being resorted to.

Sometimes carious teeth produce abscesses in the cheek, neck, and throat; these burst or are opened, and form fistulous sores, which will remain unhealed for months and years unless the cause be removed, just in the same manner as you see fistulous openings in the leg in cases of necrosis, and which remain open for years until the sequestrum is removed.

CASE 4.—Soon after I commenced practice I frequently met a young gentleman of fortune walking about with a piece of black plaster on the left cheek, as large as a dollar. I often wondered what could be the matter, but not being his attendant I had no business to inquire. After suffering the annoyance of his black plaster for a very long time, and being in London, a friend persuaded him to consult Sir Astley Cooper. He made very short work with him, took his fee, and sent him to a dentist to have a certain upper molar removed, informing him that he would be well in a few days after. His prognosis was verified by the result. This young gentleman is now an old one, and I occasionally meet him; he has never worn his black plaster since, but he has the appearance of a Peninsular veteran who had received a musket ball in the left cheek.

CASE 5.—A few years ago a middle-aged man, residing in the south, and who travels every year with surgical instruments on sale, after transacting business with me, asked my opinion about a fistulous sore which opened on the middle of his whisker on the right cheek. I introduced a probe, and came in contact with the fang of the last molar tooth of the upper jaw. I persuaded him to allow me to draw it, on the promise that he should be well in a few days. I requested him to write by post on the tenth day, and let me know the result. He wrote to say the discharge ceased the day the tooth was drawn, and that it was perfectly well. Now, here was the case of a person in constant communication with surgeons, selling them daily caoutchouc instruments of his own manufacture. He had suffered for a long period, had often taken advice, but had never had the true nature of his disease pointed out to him.

CASE 6.—Seven or ten years ago a young woman came under my care at the infirmary with a fistulous sore in the fore part of the throat, within an inch of the sternum. It had been discharging upwards of a year. I probed it; the instrument could be passed in the direction of the molar of the lower jaw on the left side. On inquiry, she said that eighteen months before she had had a tooth drawn at the dispensary, but the fangs of the tooth were left in the jaw. Afterwards an abscess formed, which descended lower and lower till it burst midway between the sternum and pomum Adami. I drew the stumps; it still discharged for a week or ten days, when it got well without any other treatment. I mention the above case to impress on your minds the possibility of the fistulous orifice being at a considerable distance from the offending tooth. The fistulous sores proceeding from carious teeth are generally on the cheek or at the angles of the jaw. On the application of the probe you will often find the instrument pass readily to the interior of the mouth; you have then only to select the proper victim for sacrifice, and you will rarely err in this respect. Where the sinus from the sore to the tooth is short, the discharge from the external sore will generally cease in a day or two after the extraction of the tooth, but where it is long, as in the above case, it may be a week or two.

There is an excellent old adage—"Prevention is better than cure." This applies well to surgery, and especially to such cases as we are alluding to; for as abscess in these cases always precedes the formation of a fistulous sore, it should be your endeavour to detect these cases at this particular period. I find that several cases of this kind come under my observation every year; the last, during the present month.

CASE 7.—Thomas K——, an Irishman, aged fifty, was admitted as an out-patient on the 2nd of January. His case is set down as abscess in the cheek. The jaw was closed; he could not open his mouth. He came again on the 7th, no better; and it was not till the 14th that I detected the true nature of the case. I examined the mouth, and found two detached fangs of a molar of the lower jaw carious and loose; he could not open the mouth sufficiently for the introduction of forceps, but I pushed them out with a punch.

Jan. 21st.—He says he could open his mouth comfortably the following day; the swelling had gradually subsided, and he was discharged cured.

Case 8.—A long time ago, a near relative consulted me about an abscess at the angle of the jaw, on the right side. I suspected its cause, for on pressure I could make pus appear at the edge of one of the molars. He refused to have the tooth drawn until I assured him the abscess would burst externally, and continue discharging till the tooth was removed, and that an ugly scrofulous-looking cicatrix would remain for life. The tooth was drawn; the abscess discharged itself into the mouth, was soon well and left no mark.

Now in both these cases, if the cause had not been detected when it was, in ten or twelve days the abscess would have burst externally, and a fistulous sore would have been the consequence, which would have continued discharging until the teeth had been removed either by nature or art. I have seen scores of such cases. Whenever you extract a tooth in these cases, always examine it carefully; you will invariably find the fang deprived of its periosteum, and sometimes a little sac attached to its root, containing pus.

Sometimes, where abscess forms from a carious molar of the upper jaw, the matter, instead of making its way to the cheek, gets into the antrum. I have seen several cases of this kind, and have at present a private patient under treatment. Remove the tooth, and if this does not give a sufficient outlet for the matter, perforate the antrum with a joiner's gimlet. There has been a very interesting case of this kind recorded in the journals during the present month.

Case 9.—A horse was condemned to the knacker's yard as being afflicted with glanders, having a foul offensive discharge of purulent matter from the nostrils, and being in the last stage of emaciation. A veterinary surgeon finding it could not masticate its food, examined its mouth, and detecting a carious tooth in the upper jaw, extracted it. The discharge ceased, the horse soon began to thrive and got well. Here was a case in which there was as much professional credit due to the surgeon as if instead of saving a horse from the knacker's yard he had saved the life of an alderman. I was speaking yesterday on the subject to my friend, Mr. Louis Oxley, the dentist, and he related to me a case of such interest that I requested him to write it out for me. Here you have it in his own words:—

Case 10.—A young woman of rather strumous habit, complained of a dull, aching pain under the orbit. The pain lasted from three to four months, attended by a gradual elevation of the orbital surface of the maxillary. The eye above this surface became at length so affected as entirely to lose its functions. At this stage of the case the young woman, who was attended by a general practitioner, who ignored dental surgery and pathology, resorted to leeches, blisters behind the ears, and drastic purges: I need not say ineffectually. After two or three months' loss of the sight, the young woman first perceived a discharge from the right nasal fossa of a thick purulent fluid. This discharge had existed for eighteen months when I first saw her, *even in spite of the aforesaid remedies!* An examination of the mouth at once revealed the cause of so much misery, and the removal of three roots in a state of periostitis was the simple means by which two most important organs regained their proper functions.

There is another case in which swelling, inflammation, and ulceration at the sides of the tongue takes place, and which does not appear, so far as my experience goes, excepting in individuals approaching to or upwards of sixty years of age; but I have seen several cases of it, and shall proceed to describe the cause. If you will examine the form of the molars of the lower jaw where they come in contact with the sides of the tongue, you will find the line from the neck to the top of the crown gives a convex outline, so that for thirty or forty years during the act of speaking or mastication the sides of the tongue come in contact with a smooth rounded surface; but the constant grinding of hard food, such as biscuits, &c., for two score years, where all the teeth have remained sound, wears away one-third of the upper part of the teeth, the bony part is worn away deeper by one-eighth of an inch than the enamel, leaving a sharp edge projecting into the mouth, so sharp that, by firmly pressing the finger and drawing it along the edge, you might cut it to the bone. The friction of the tongue against this sharp edge produces the effect I have described. It is only necessary to round off the edges by the use of a fine file, and the tongue will soon heal. The operation will require to be repeated in a few years.

Now, gentlemen, I conclude most of you intend to practise the three branches of the medical profession, or to become what is called general practitioners. The study of the anatomy and physiology of the teeth is in general too much neglected; it is a most interesting subject, and surgeons often make serious mistakes who are ignorant of it. There are those who take a pride in confessing their ignorance of some parts of their profession—midwifery and dentistry, for instance; I hope you can all with me feel a sincere pity for such.

Case 11.—Many years ago, a patient of mine went with her family to a fashionable watering-place. One of her children, nearly four years of age, was taken ill, and a surgeon of some eminence was called in, who attributed its illness to teething, and lanced its gums. Now he ought to have known the child had cut all its first set of teeth nearly two years previously, and, as I hope you all know, that it would be at least three years before another tooth would be ready to perforate the gums. These are the sort of errors you will commit if you remain ignorant of this subject when you are in practice.

Clinical Lecture

ON

CERTAIN STATES OF THE URINE SYMPTOMATIC OF DISEASE OF THE KIDNEY.

BY W. R. BARSHAM, M.D.,

PHYSICIAN TO THE WESTMINSTER HOSPITAL, AND LECTURER ON THE PRACTICE OF MEDICINE.

HÆMATURIA: BLOOD IN THE URINE A SYMPTOM OR OTHERWISE?

THE appearance of blood in the urine is always a source of anxiety and alarm to the patient, and if not rightly interpreted may become a source of serious error in treatment. Its importance as a symptom must depend on the part of the urinary apparatus from which it is derived. Its significance, even when coming from the kidneys, is momentous or otherwise according to the character of the accompanying symptoms. It may indicate temporary conditions of disease, to be easily removed by judicious measures; or it may afford unequivocal evidence of incurable organic mischief. Several cases have of late been in the hospital, and they present the opportunity of explaining to you the force and value of the symptoms by which a correct estimate may be formed of this state of the urine. Hæmaturia may occur in the course of many different diseases. It may be symptomatic of various diseases of the kidney: 1. Simple inflammation or nephritis. 2. The early stage of Bright's disease. 3. Scarlatinal dropsy. 4. Calculous pyelitis, including under this form gouty inflammation. 5. Tubercular pyelitis. 6. Cancer of the kidney. Or, secondly, the hæmorrhage proceeding from the kidneys, may not imply any organic disease of these organs, being symptomatic only of a general hæmorrhagic condition, in which the kidneys participate with other organs; such is the hæmaturia in purpura and scurvy. It occurs also in some febrile disorders, scarlet fever, variola, and typhus, and it is sometimes prevalent in pyæmia. Moreover, the blood may be derived from the bladder, prostate, or urethra, quite independent of the kidneys. Again, hæmaturia has been noticed, occasionally occurring in women, as vicarious of the menstrual flux, an example of which was lately under Mr. Guthrie, in Percy ward, in a woman suffering from abscess in the mamma. In this case the catamenia had been absent during the previous three months; but for several consecutive days at the menstrual period blood was passed with the urine. There was no increased frequency of micturition, nor any pain or irritability about the urinary passages. The urine, examined under the microscope, presented blood-discs, amorphous fibrine highly stained with hæmaturia, and a few epithelial corpuscles, apparently from the pelvis of the kidney and ureters. Rayer mentions instances of this vicarious hæmaturia.

There is yet another form of hæmaturia, which appears to be unconnected with any of the preceding morbid conditions, and the only exciting cause which can be detected is mental agitation. If, in particular constitutions, there be this singular idiosyncrasy, that mental inquietude or excitement can bring on attacks of hæmaturia, temporary in their duration, innocent in their sequel, and unconnected with organic mischief in the kidney, it must be manifestly of importance to ascertain if possible the symptoms by which such an unexceptionable and rare form of hæmaturia can be distinguished from the more serious cases arising from calculous or other organic disease.

The case of Edward B——, in Burdett ward, appears to me to illustrate this rare form of hæmaturia, the recurrence of the attack being invariably connected with mental disquietude. He is a shoemaker, forty-three years of age, of spare habit of body. He states that he is a teetotaller, and has been so for years; that about nine years since he first noticed his urine discoloured with blood; its appearance was unaccompanied by any pain or constitutional disturbance; it alarmed him, and he sought advice. He was ordered change of air, and cessation from his very sedentary employment. He states that he was relieved for the time, but that three years afterwards he suffered another attack. On this occasion he recollects that it was preceded by a sense of weight and pain in the loins. He was treated at Charing-cross Hospital, and on subsequent occasions at other hospitals, always with relief; the continuance of the blood in his urine seldom exceeding ten or fourteen days. During the last twelve months the hæmaturia has become more frequent, and he has had two attacks in the course of the last six months. On admission, he complained of pain in the loins, and the urine was highly charged with blood. He is free from all other symptoms of disease: the chest is natural; heart sounds natural; the abdomen is flat, soft, and elastic; there is no fulness in the lumbar spaces, and no tenderness on deep-made pressure; the region of the liver does not exceed its natural limits. The appetite is good, the tongue clean, the bowels natural. Micturition is not more frequent than natural, nor is there any difficulty or pain. The urine is of a dark-red colour, but is free from visible clots; allowed to rest, it deposits abundance of blood-discs. He was ordered to be cupped to ten ounces from the loins; to take five grains of gallic acid every four hours, and half a drachm of the compound jalap powder every alternate morning, and a warm bath each alternate evening. The urine was examined by the microscope: numerous blood corpuscles were visible, and many fibrinous casts entangling blood discs in their substance. These fibrinous coagula had the appearance of having been moulded in the uriniferous tubes, and washed therefrom by the escape of the urine; their size suggested their formation in the straight tubes of Bellini. Ten days after admission, the urine was quite free from all vestiges of blood to the unassisted eye; it presented a faint albuminous cloud by heat and nitric acid, and, allowed to rest, it deposited a flocculent precipitate, which, by the microscope, was resolved into amorphous fibrinous masses, slightly stained with hæmatin; a few blood discs were seen, but no other microscopic objects. The patient is free from all traces of lumbar pain, and he thinks that his bodily strength is increasing. Three weeks after admission, he presents the same favourable condition: no trace of blood or albumen in the urine; the same flocculent deposit of minute amorphous coagula stained with hæmatin; but no casts of the tubes, or any blood discs. The medicines were discontinued. On the fifth week from admission he complains of a return of the lumbar pain, but there is no alteration in the natural appearance of the urine, except that crystals of oxalate of lime were observed interspersed amongst the minute amorphous coagula above noticed. He was discharged in the month of August, 1855, and you have seen him from time to time attending to report his freedom from any return of hæmaturia; but the last visit he complains of great increase of pain in the left lumbar region, extending upwards to the shoulder of the same side. In October he brings a sample of his urine, and it is again blood-red, and possesses the same characters as when we first examined it; but it is unaccompanied by any constitutional disturbance, and he states that he has no difficulty in passing his urine, nor is there any undue frequency of micturition, nor any local symptoms different from those when an in-patient. He adds an important fact: that these recurrences of bloody urine are always caused by some vexatious mental excitement. The man, it appears, is quiet, sober, and industrious, and, upon principle, totally abstains from all fermented drinks. His wife has no liking for water, but possesses the common prejudice in favour of alcohol, and, whenever she can command the means, indulges to excess; her demeanour towards her husband at these times is somewhat at variance with her marriage vows, and to avoid annoyance our patient states that he has endeavoured to effect a voluntary separation; that while he is left to himself, undisturbed, his malady disappears; but the moment he is subjected to visits from an inebriate woman the hæmaturia instantly returns. He has noticed this sequence to be so uniform, that he firmly believes that the vexation and trouble to which he is occasionally exposed are the sole causes of his disease. I am inclined to think the man's inference not so far wrong or unintelligible as it may at first be considered. It may be readily granted that neither anatomically nor physiologically is the connexion between renal hæmorrhage and mental emotion very apparent. It is true that certain mental emotions are known to excite, more or less, the renal functons; but the cases are extremely rare in which a morbid state like hæmorrhage can be traced to a similar exciting cause. The records of medicine, however, are not without such cases. Rayer, in his work on "Diseases of the Kidney," in treating of Renal Hæmorrhage, mentions a case of hæmaturia (tom. iii. p. 359), brought on apparently by no other cause than mental excitement: "Survenu presque immédiatement après un violent accés de colére." The accompanying symptoms were, severe hypogastric pain, with heat and pain in the course of the ureters, and sensation of weight and aching in the region of the kidneys. He was quickly relieved by rest, warm baths, diet, and mucilaginous drinks.

I saw a gentleman, last spring, seventy years of age, who suffered from occasional attacks of hæmaturia, traceable to no other cause than mental excitement. There were no gouty symptoms, or the least tendency thereto. He was a remarkably healthy, vigorous country gentleman. He had consulted the most distinguished physician of our day, and whose name is inseparably connected with renal pathology, and whose opinion, as the patient informed me, was in conformity with the views now expressed. This man, B——, has, in the course of the last summer, twice presented himself with a return of the complaint. You have seen him on several occasions. The hæmaturia, when he appeared in June, lasted only three days. On the fifth day, the urine was free from all trace of blood or albumen. *Trouble* and excitement preceded the attack. In July, he had another attack; and so dependent is the hæmaturia on mental excitement, that on this occasion a very trivial circumstance seems to have induced it. It was a dispute with his employer as to the rate of remuneration he should receive for work done. On each of these attacks, the symptoms exhibit the same peculiarity; a sense of weight and pain about the loins, but unaccompanied by any constitutional disturbance, greater frequency of micturition, or inconvenience or difficulty in that act.

It is thus by the absence of all the usual symptoms of irritation of the kidney, such as are ever present in gouty inflammation, whether excited by the presence of calculus or not; it is the absence of constitutional disturbance, whether febrile or dropsical; it is the temporary character of the attacks, the urine in a few days returning to a clear and natural state, without any trace of albumen, or any morbid morphological element therein, that justify our excluding as the cause of hæmaturia all those organic diseases of the kidney in which hæmorrhage occupies the position of a leading symptom, and attributing the malady exclusively to the operation of mental excitement. I confess that but for the authority of such an observer as Rayer, or the support which my present view of this case receives from the opinion expressed by the eminent physician to whom I have previously alluded, that I had great difficulty in forming a satisfactory diagnosis of the nature and cause of the hæmaturia in this case. It is only after a very careful observation of the sum of the symptoms exhibited by the patient over a period of more than eighteen months, and observing during that period the strictly temporary morbid condition of the urine, the constant relation of this state of hæmaturia to mental emotion, that I came to the conclusion that the case might fairly be classed with those that Rayer has spoken of under the name of hæmorrhages renales essentielles (sporadiques), and that we might attribute its exciting cause to the rare and exceptionable agency of mental excitement. I am very desirous of keeping this patient under observation, with a view of testing the soundness of the opinion and diagnosis brought before you in this lecture.

Original Papers.

ON A LOWER MEDULLA OBLONGATA: OBSERVATIONS AND SUGGESTIONS.

No. III.

By Marshall Hall, M.D., F.R.S.;

OF THE INSTITUTE OF FRANCE, ETC., ETC.

If we divide the spinal marrow between the sixth and seventh dorsal vertebræ, we have a medulla oblongata *below* the division, as distinct, as complicated in its functions, as *the* medulla oblongata above that division.

Nay, each presides over its own spinal functions: those belonging to the *upper* medulla oblongata relate to the preservation of the individual; whilst those belonging to what I must now beg permission to call the *lower* medulla oblongata, relate to the persistence of the species; at least, in general terms, not absolutely.

In the same manner, the functions of the upper medulla oblongata are functions of *ingestion* chiefly, whilst those of the lower medulla oblongata are functions of *egestion* chiefly, and not absolutely. For the exhalation of carbonic acid gas in the lungs, after it has performed *its* functions of excitor of the next inspiration, is an act of egestion; whilst the act of conception is one of ingestion.

Again, the upper medulla oblongata *may* induce an action of the expulsors; whilst the lower medulla oblongata certainly *does* induce acts of egestion in the case of excited respiration, as in coïtu, and of excited vomiting, as in early pregnancy, from impressions, become excitations, carried to it by its own special centripetal excitor nerves.

In connexion with the upper medulla oblongata, there is a *distinct* pneumogastric nerve. The analogue of the pneumogastric, in relation with the lower medulla oblongata, is amalgamated with the ganglionic nerve. Something of this kind occurs in regard to the upper medulla; for, otherwise, *why* does and *how* can vomiting occur from excitation in the stomach after the perfect division of both of the pneumogastric nerves? Doubtless, then, the *ganglionic* nerve is partly excitor and *centripetal*.

It is through the system of centripetal and centrifugal nerves, in connexion with the lower medulla oblongata as their centre, that the sympathy or synergy, and "*solidarité*" of the *triple* system of the ovarium, the uterus, and the mammæ, are accomplished; a *solidarité* which extends beyond these organs themselves, as in the case of the upper medulla and its co-ordinated organs. Thus, as a cold douche on the face excites deglutition, so a cold douche applied on the hypogastric cutaneous surface excites contraction of the uterus, of the rectum, and of the bladder. Contraction of the uterus is also excited by passing the finger into the rectum, and pressing it firmly against the sacrum.

There is a most useful fact of this kind, not, I believe, generally known. When the rectum is plugged as it were, by a lump of impacted fæces, which no effort, however violent, of the patient can expel, relief is often obtained in a few minutes by the firm and sustained pressure of the finger below the coccyx downwards, the patient being conscious that it is not a mere mechanical effort, *but an excited action.*

The action of the œsophagus in connexion with the upper medulla is—dia-peri-staltic; the action of the rectum in connexion with the lower medulla is—*the same.*

There is a singular pathological action of the intestine which I have frequently observed with interest: it consists in peri- and anti-peri-staltic action,—the intestine between the two points of commencement of these actions becoming full, tense, tympanitic and painful; a state of things frequently dispensed by frictions with loud borborygma. A *similar* state of action induced in the uterus leads to the hour-glass contraction of that organ. I think it partly *dia*-staltic, and to be relieved by means acting upon the diastaltic systems, especially the warm douche.

In the system of the lower medulla, in the absence of an analogue of the pneumogastric, and with the exception of the cutaneous nerves, the centripetal and centrifugal nerves occupy the same sheath and pursue the same course with the ganglionic nerves, at least so I suppose, for no careful dissection has, of course, ever been made, guided by the idea contained in this paper.

I need scarcely add that all obstetrics, as they are all *Diastaltic*, are linked and bound with the lower medulla oblongata. In a case given by Mr. Brachet, a patient affected with complete paraplegia conceived and brought forth a living child prosperously. The physiological reader will remember a very early and most interesting experiment of mine, performed on the lower portion of the turtle, separated from the rest in the manner of cooks. This diastaltic system, centripetal nerves, the lower medulla oblongata, the centrifugal nerves, and their actions, were as perfect and complete as those of the upper portion of the animal.

In the articulata, there is a distinct analogue of the medulla oblongata attached to each ring or segment of the animal. In the libellula or dragon-fly, divided into several distinct segments, respiration is continued and movements may be *excited* from the surface in each of those segments, whilst fæces are expelled from the lowest one.

Other facts crowd on my mind as illustrative of my present subject, the distinct and complete *lower medulla oblongata.* But I believe I have adduced sufficient to illustrate the general idea, which is all that can be done in so brief a communication.

I will only add one remark. Much as I have endeavoured to show that there are *two* medullæ oblongatæ specially, it is at the same time obvious that there is a *solidarité* between each and every part of the entire *Diastaltic Nervous System* and each and every other: in the asphyxia of animals, of the dog, for example, an act of inspiration may be excited by stimulating *any* part of the general surface, but especially any one of the four feet, or the tail, or, especially, the anus. We cannot be too much imbued with this fact, and the principle it unfolds, in our treatment of asphyxia in the human subject, and especially of the still-born, but also of the drowned. As a further example of the same kind, I may observe, that in the decapitated turtle *all* the limbs are moved on irritating *any one* of them!

One fact more: all and every part of the diastaltic system is affectible by *emotion*. Some physiologists have talked of *cerebral* reflex action. This is an error. If a person is sick on *seeing* a disgusting object, this is not a reflex action in the sense in which I have distinctly defined that expression; but a sensation (vision), an emotion (disgust), and the effect of this emotion (the act of vomiting), an effect which may be induced by the same emotion not excited by an external sentient impression, but by the mere recollection of the disgusting object. Even Dr. J. Reid[*] fell into this error. The phenomenon is a *psychical* one; reflex, or as I now propose to term them, diastaltic, actions are *physical*. They are *toto cœlo* distinct. The former are also rather pathological than physiological.

Of a diastaltic action through the ganglionic system, exclusively of the spinal centre, as I have said in a former paper, I have sought for evidence in vain.

All such actions imply a spinal centre; and the cases of *many* associated functions and actions of this class imply a *medulla oblongata*.

⁂ I observed in my last paper, No. II. of this series, that as the blood moves in *circles*, the diastaltic actions are accomplished in *cycloids*. There is at least one *diastaltic circle:* the pneumogastric excited *in the lung* regulates the methæmatous function *in the lung!*

ON DIA-PERI-STALTIC AND ANTI-PERI-STALTIC ACTION: OBSERVATIONS AND SUGGESTIONS.

No. IV.

BY MARSHALL HALL, M.D., F.R.S.;

OF THE INSTITUTE OF FRANCE, ETC., ETC.

IF in a rabbit the pneumogastric nerves be divided in the neck above the origin and junction of the œsophageal branches, and if the animal be given parsley to eat, a great part of this vegetable is found to remain in the œsophagus. The principal action in œsophageal deglutition is *diastaltic.*

If now the animal be killed, and the œsophagus be laid for observation on the table, a slow contractile movement of the successive portions of the organ is perceived, induced by the contact of the atmospheric air, whilst a part of the parsley is expelled from its lower end. The action of the œsophagus is therefore *peristaltic.*

But it has been stated that it is diastaltic. It is therefore *dia-peri-staltic*, and much as we might wish for simpler terms, I can devise none that can so expressively convey this complex truth and so firmly imprint it on the memory. I think, too, that my readers will perceive the superiority of the term diastaltic over that of the former term reflex.

The fact I have produced is only one of a series of dia-peri-staltic actions. All the terminal tubal organs of the animal economy are probably of this character—the rectum, the Fallopian tubes, the uterus, &c.

Nor is this all. If the action of the intestine under the impression of the stimulus of a pointed instrument, or of a particle of pure potass, be observed—*first*, whilst it remains in nervous connexion with the spinal centre, and, *secondly*, when that connexion is severed, it will be found to be very different; in the former case, a vermicular action is produced; in the latter, the contraction is limited to the point stimulated.

The first phenomenon is one of *dia*-peri-staltic action; the second, one of immediately-induced peri-staltic action.

There is, besides, a more general, slower movement of the intestine, as of the œsophagus in the former case, excited by the contact of the atmospheric air; but each is perfectly distinct to the eye of the careful experimenter and observer.

As my object in these brief papers is only to offer suggestions for the future inquirer, I leave these physiological facts, and pass on to facts of another and pathological character, not of less interest.

I noticed, in a former paper, the case of combined peristaltic and anti-peristaltic action observed in certain maladies in the human subject: the intestine contracts forcibly at a certain point; it contracts not less forcibly at a lower point; between these two points it is tumid, tense, and painful, and its course and form are frequently plainly traceable through the parietes of the abdomen. I have observed this phenomenon in intestinal irritation, peritonitis, dysentery, hernia.

A *similar* phenomenon is still more frequently seen in the terminal tubular organs. In the uterus, it occurs in the *hour-glass* contraction. Such, as it appears to me, is the nature of tenesmus and strangury.

But there *is* another phenomenon of this kind less common, less recognised, and one which, if misunderstood, is apt to lead physician and surgeon into a faulty diagnosis: it occurs amidst the complicated structures of the isthmus faucium, and at the upper border of the pharynx and larynx, inducing a *special* dysphagia, never, I believe, described in writing, and from which I myself have recently suffered.

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[*] In mentioning this much-honoured name, I am induced to add, that he, too frequently perhaps, cited my name in connexion with that of the late Mr. Broughton, as having performed some experiments together, in which he thought there were some errors. I beg to say that I was only a *witness* to those experiments, the number of which I always considered as insufficient to establish all the conclusions drawn from them, and the details of which were entirely Mr Broughton's. If the experiments had been given simply, without inference or comment, they would have been full of interest and of vast value.

The cause I believe to have been a double course of lectures on the practice of medicine given in one season. The first symptoms were a little affection of the voice, discomfort about the laryngeal region, and particles of food long retained in the upper part of the pharynx, and eventually expelled by an *anti*-peristaltic action.

Gradually inflammation spread over this region, and on an occasion of taking cold, extended downwards to the bronchia and upwards to the nares and mouth.

But to the symptoms to which I wish to draw attention, when an attempt was made to swallow fluids, for example, it was only after sundry efforts that the commencement of deglutition was effected, and after others, attended by much borborygmus, that deglutition was, at sundry times, completed; in one word, it was an anti-peristaltic action of the most marked and painful kind.

I may also further adduce the condition of the eyelids under the influence of certain irritations; though this may possibly be not precisely of the character of that morbid action of which I am treating.

Nor may I, perhaps, omit to mention in this connexion the phenomena of the larynx and pharynx in the case of choking.

If I have briefly noticed these facts, it is only to draw the attention of the physiologist and pathologist fully to the momentous subject.

There are other cases, some of which are familiar to us all, others of which are less known, and which partake of some degree of obscurity, which I wish to adduce, in conclusion, in order that I may draw attention.

An action of this kind constitutes globus:—certain irregularities of action of the heart;—certain forms of singultus:—a peculiar tense tumefaction of the abdomen in hysteria, induced by simultaneous antagonistic action of the diaphragm and of the abdominal muscles;—certain moveable, evanescent, circumscribed ("phantom") tumours *in* the abdomen, induced by simultaneous peristaltic and anti-peristaltic action of the intestine, perhaps with borborygmus, &c. &c.

January, 1857.

OF THE EXTENT AND SPECIALITY OF THE DIASTALTIC SPINAL SYSTEM: OBSERVATIONS AND SUGGESTIONS.

No. V.

By Marshall Hall, M.D., F.R.S.;

OF THE INSTITUTE OF FRANCE, ETC., ETC.

There is, perhaps, no phenomenon of the Diastaltic Nervous System more remarkable than that of the "*solidarité*," or combination and union, in some instances, between its different parts and functions.

I will first notice the oneness which exists between *all* the *excitors*, cutaneous and internal, and *all* the *motors* of that system; between the trifacial and the cutaneous spinal, and the pneumogastrics, and the spinal accessory, the intercostal and the diaphragmatic. Excite but a filament of the former, and all the latter are drawn into action, linked together in one *solidarité*.

But this is not all. The act of *ex*piration is linked in one *solidarité* with that of *in*spiration; and the excitant and the excitor nerve which accomplished the former, accomplish the latter, as one link of a firm chain drawn, draws with it the rest.

This fact is obvious in the cases of sneezing and coughing. Both consist of an excited inspiration, followed by a firmly-linked energetic expiration, both acts being excited in linked sequence by one excitant through one excitor nerve. Indeed, in one case, pertussis, the acts of *ex*piration are more remarkable and complete than those of inspiration.

So, physiologically, an equable expiration is inseparably linked with an equable inspiration, the connexion not being in the least less real than if one or both of these acts were more energetic or violent.

This *solidarité* exists between nerves the most distant of any in the animal economy. A cold douche on the lower extremities will induce an act of inspiration through the medium of the medulla oblongata; uterine excitation induces vomiting through the same medium.

But, perhaps, the most striking example of this kind is that which subsists between the mamma placed high in the human frame, and the ovarium and the uterus placed in its lowest region.

One remarkable effect of development and growth is the extraordinary *course* of some of the nerves of the diastaltic system; for instance, that of the pneumogastric and of the diaphragmatic; that of the spinal accessory, of the facial in the face itself, the descendens *septimi*, the descendens *noni*.

Something not less extraordinary in course, though less obvious, must connect the ovarium, the uterus, and the human mamma. Doubtless there are mingled analogues of the nerves which I have enumerated above, in connexion with the *lower* medulla oblongata.

Uterine irritation produces general convulsion not less certainly than the irritation of teething. Irritation of the os uteri produces abortion more slowly, but not less certainly, than irritation of the fauces induces vomiting; indeed I have no doubt that the baneful custom of digital examinations. more frequent of late, is the too frequent *cause* of that ill-fated uterine action.

In the midst of this *solidarité* in the diastaltic system, that is, of the diffusion and combination of its energy, there is then a speciality of action not less extraordinary. A cold douche on the face produces *deglutition* and *inspiration* specially, and not *any* kind of action at random. The first application of the infant to the *nipple* produces contraction of—the *uterus*, and of the uterus only.

But I have already stated facts sufficient to establish the principle announced as the topic of this paper. I will therefore conclude with one final observation:

The blood circulates over every part of the animal system (with a slight exception or two).

But the diastaltic nervous system is not less diffused: it consolidates, as it were, by a motor nerve, *every muscle* with every *point* originating an excitor nerve; it consolidates by a secretory nerve every point in which nutrition, assimilation, elimination, reparation, are effected with every *point* originating an excito-secretory nerve.

If a universally circulating blood is now manifest to every eye aided by the microscope, a universally circulating nervous excito-motory, excito-secretory power or energy is now manifest to every eye by its manifest phenomena.

If a venous system conveys the blood to the heart, if the heart propels the blood through a system of arteries into a system of capillary or methæmatous vessels, a system of centripetal nerves conveys an excitation to the spinal centre, and this, like the heart, sends it forth along a system of centrifugal nerves, not only to every muscle, but actually *to* every such methæmatous vessel and methæmatous point in the entire animal economy!

Thus, if we have a circulation of the blood or material *from which* every part of the animal frame is constituted, we have a circulation or cycloidal movement of dynamic or nerve power *by which* every part of that animal frame is constituted. In a word, as there is *a Blood-Circulation*, so there is—a *quasi Nerve-Circulation.*

I conclude these brief papers by presenting to my reader a summary of the *System*. It embraces, then,—

1. *The Orifices;*
2. *The Exits or Sphincters;*
3. *The Terminal Tubal Organs* connected with these; the first and second being diastaltic in their action, the third dia-peri-staltic;
4. *The Intestinal Muscular Organs*—the heart, the intestinal canal; the uterus;
5. *The Secretory* and *Blood-changing Surfaces* and *Organs.*

I need not say how much of investigation the demonstration of the last two points still requires.

January, 1857.

ON A CASE OF SECONDARY UTERINE HÆMORRHAGE.

By George Todd, Esq., M.R.C.S., West Auckland.

Mrs. W——, aged forty, the mother of nine children, was attacked by small-pox after visiting a friend recovering from that disease. She was in the seventh month of pregnancy, and had the disease in a very severe and confluent form. She was convalescent in a month, and was delivered of a healthy female child two months after the attack of small-pox. The labour was quick and favourable, not being accompanied nor followed by any unusual discharge of blood. She progressed favourably, and in a week after her confinement was up and going about, and I discontinued my visits.

Three weeks after delivery, I was hastily summoned to her, about nine o'clock, P. M., and was informed that during the last three days there had been some discharge of blood from the uterus, which, however, had excited little notice, but on the day of my visit there had been frequent and very profuse hæmorrhage. I found the patient complaining of very severe pain in the left side of the chest, which was much increased on inspiration, and which appeared to me to be of a pleuritic nature. There was death-like paleness, and the countenance was expressive of great anxiety; the pulse was hardly perceptible; the respiration was remarkably laborious and hurried, with restlessness and anxiety. She was quite sensible, and complained of giddiness and a feeling of sinking. On making a careful examination per *vaginam*, I found that the os uteri was open enough to admit the finger, and the uterus itself was larger than is usual so late after delivery. The hæmorrhage had ceased. I gave her an anodyne draught, with ammonia, which I repeated in an hour, after which she expressed herself as feeling quite easy, but the breathing continued quick and gasping, and the countenance still expressed great anxiety. The hæmorrhage did not return; the pulse became more perceptible, quick, and very feeble. I left her, and desired her husband to follow me home in an hour. Before the expiration of this time she died, without making any complaint, and without a struggle; indeed, the nurse thought she was sleeping when she found her dead. There had been no return of hæmorrhage.

⁂ In commenting on this case, Mr. Todd is of opinion that the hæmorrhage which occurred must be considered as *secondary*. It is neither "menorrhagia lochialis," nor intermittent hæmorrhage dating from the expulsion of the placenta, but a loss of blood from the uterus occurring after the discharge which usually accompanies delivery has ceased. It is extremely rare. Dr. Roberton has published fourteen cases, and Dr. Collins has also recorded a few. It does not appear from these data to be a particularly fatal form of uterine hæmorrhage. After referring to these particulars, Mr. Todd states it as his opinion that the cause is to be sought for neither in a relaxed condition of the uterus, nor in its post-partum sub-involution. He rather inclines to believe that an altered condition of the blood and circulation may play an important part in the causation of the hæmorrhage. In this particular case, too, he thinks the age of the patient and recent convalescence from a severe form of variola must not be overlooked, inasmuch as they point to the probability of a morbid condition of the blood.

REPORT OF A CASE OF STRANGULATED FEMORAL HERNIA.

By John Rose, M.D., Surgeon, R.N.

A patient (a seaman, aged forty-three) applied to me, with a large scrotal hernia on the right side. On examination, the intestine appeared to be filled with fæculent matter. According to his own statement he had been labouring under this complaint for three years, but had latterly left off wearing a truss. While straining at stool the hernia descended into the scrotum. The enormous size of the tumour precluded the idea of being able to reduce it by the taxis, to which accordingly no recourse was had. An enema composed of castor oil, spirits of turpentine, and infusion of senna was immediately given, and in half an hour repeated. This operated freely, bringing away a quantity of scybala, mixed with fluid fæcal matter. The hernia, however, still continued of the same size, and there was pain and tenderness on pressure in the umbilical region, with nausea and feeble pulse. Two drachms of tincture of opium were given, and three hours afterwards the hernia gradually and *spontaneously* returned into its natural cavity. He passed a good night, and expressed himself quite easy the next morning. He was confined to bed for two days; and a truss having been fitted for him, he was very soon in his usual state of health, although of course unfit for the active duties of a seaman.

I lately had an opportunity of seeing another case, somewhat similar, in which an operation was just about to be performed, but, on the patient being put under the influence of chloroform, the hernia was fortunately reduced.

H.M.S. *Flying Fish*, Portsmouth, Jan. 1857.

ON THE USE OF CHLORIDE OF ZINC IN THE TREATMENT OF CANCER.

By Edward S. Haviland, M.D. Edin., M.R.C.S., L.S.A., &c.

Having been engaged, for some time past, in the treatment of cancer by the process of enucleation, under the use of chloride of zinc, an escharotic long known to the profession, and in the ordinary use of which there is nothing novel, yet as the mode of application I have adopted is not generally known, I am desirous of laying before the profession, as briefly as possible, the result of my experience, together with the mode of preparing as well as employing the remedy.

I am aware there has been at various times much written upon the subject; and did I not see that hitherto the most effectual mode of using this agent has not been made public, I should certainly not have ventured to trespass upon the valuable space of The Lancet.

The report of the recent case at St. Bartholomew's Hospital I do not consider sufficiently conclusive to establish any peculiar line of treatment, as it only applies to one particular state of the disease. The same remark applies to the paper of Dr. Simpson, which, though it gives much valuable information regarding the present state of our knowledge of the various escharotics, nevertheless, does not prove the power or capability of any particular one to effect the elimination of the entire of any diseased structure *en masse*, although his applications appear capable of effecting more or less a certain amount of benefit, by producing a succession of superficial sloughs, layer after layer. The escharotic, and, where incautiously used, the destructive power of chloride of zinc was, as many as thirteen or fourteen years ago, most strikingly brought to my notice, by an unfortunate case, which came under my care, by a too liberal use of the remedy to destroy and slough-out a diseased gland, from which time I have always felt an interest in the subject.

Mr. Alexander Ure, of St. Mary's Hospital, was one of the earliest authorities on the use of escharotics, for the treatment of cancer, in this country; but, more recently, Mr. Langston Parker, of Birmingham, chose for the subject of his address, on the occasion of the twenty-fourth annual meeting of the Provincial Medical and Surgical Association, held at Birmingham in 1856, "The Treatment of Cancerous Diseases by Caustics," which has since been published in the form of a pamphlet, wherein he has given the most able and concise *résumé* of the most recent discoveries on the subject, and in which he refers to all that has taken place regarding it upon the Continent, particularly to the wonderful exploits of the renowned Llandolfi, which may be seen by referring to the "Archives Générales" for May, 1855, of which there is a translation in the *Dublin Quarterly Journal* for November, 1855, and who employed not only the chloride of zinc, but various other chlorides, some of which were even of a more powerful nature, and where, from whose labours, the latest and most approved method of using them may be learnt. Later still, Professor Beyk has recommended a paste which is less expensive and of easier application than Llandolfi's.

Dr. W. P. Brookes, of Cheltenham, has given an account of his experience of this remedy as far back as 1848, which may be seen in Braithwaite's "Retrospect of Medicine from January to June, 1849," vol. xix., with the history of four cases of cancer of the upper and lower lips, which he considered was attended with most favourable results, and one of which was perfectly cured under its use, and remained well up to the period of his writing, which was four years from the time of his treatment.

I will now proceed to give the mode of preparing the remedy. This may be done by making it into a thick paste with any absorbent powder, such as gypsum, flour, starch, or the powder of althæa, or gum acacia; and I find the proportions necessary are either equal parts of the chloride and powder, two or even three of the former to one of the latter; or, what I prefer is, a mucilage of the purest gum arabic, made as thick as possible, or sufficiently viscid and glutinous to prevent its running, as, on account of the highly deliquescent nature of the chloride of zinc, it is apt to run over the sound and healthy skin, which it destroys almost with equal facility as the diseased structure, though a contrary opinion prevails. The preparation may be coloured with any vegetable colouring matter, which permeates into the subjacent tissue, indicating the depth which each rector passed freely through the thyroid opening into the belly.

On the morning of the 17th, thirty-six hours after the operation, the patient died, the bowels being unrelieved, except by the passing of flatus. No post-mortem examination was allowed, much to my regret.

The death of this patient was to me not unexpected; she was aged—upwards of seventy—not strong, thin, and without stamina to withstand any severe shock. The bowel had been tightly nipped from the Sunday afternoon until the Tuesday night, and at the time of the operation was darkly congested, whilst the severity of the constriction was further evinced by the coagulated blood within the sac. Peritoneal inflammation, too, was evidently present at the time of my first visit. Death was probably caused by the severity of the injury to the bowel, which rendered it incapable of resuming its functions, even when the cause was removed by the peritoneal inflammation. Considering the very small aperture through which the bowel is thrust in this variety of rupture, and the unyielding nature of the structures which surround the greater part of its circumference, we should expect that a shorter continuance of the bowel, in its abnormal position, should be followed by irremediable mischief in this than in other varieties of rupture. The operation for the relief of strangulation should, therefore, be had recourse to as early as possible. It has been supposed that a thyroid rupture could not be diagnosed during life; most of the cases recorded by surgical writers have only been discovered on examination after death, and it is suggested by Cloquet, that they are much more frequent than is supposed; but that they are overlooked. It is, therefore, desirable to consider what is the course taken by this form of rupture, and upon what points a diagnosis may be founded.

When a rupture first emerges from the belly by the thyroid passage, and is yet very small, it lies deeply, overhung by the projecting edge of the pubic bone, and separated from the surface by the pectineus muscle, and the inner portion of the femoral sheath. The direction of the sub-pubic passage from the abdomen being obliquely downwards and inwards, the rupture, as it is further protruded from the belly, will have this direction impressed upon it; whilst the pectineus muscle, passing backwards and outwards to its insertion, will interfere with the progress of the rupture directly downwards. It advances, therefore, inwards and slightly downwards, gets more completely behind the pectineus, then behind the edge of this muscle and the abductor brevis, and if it continues to advance, will pass behind the abductor brevis, and, perhaps, the gracilis, forming, at last, a very perceptible swelling near the pudendum, as in Garengeati's case; or, more probably, it may form a swelling in this position, covered by a bulging out of the gracilis muscle.

In its first stages, overhung by the pubic bone, its detectiou must necessarily be very difficult; afterwards, except in very stout persons, I think the existence of a fulness, or swelling, behind the pectineus, would always become evident on comparing the hollow of the thigh on the suspected side with that on the sound side. The difficulty would be, as shown by Mr. Obré's case, to say whether the swelling were caused by a small femoral rupture, or by a thyroid rupture; for both now occupy very much the same position relative to the femoral vessels and Poupart's ligament—i.e., both are internal to the vessels, and below the ligament; but they occupy different planes, the thyroid behind the pectineus, the femoral in front of it. The indistinctness of the thyroidal swelling; the feeling, on manipulation, of its being covered by a greater thickness of parts; the impossibility of getting down to the neck of the rupture with the fingers, and the absence of all tendency to turn up, would be the points mainly to be relied on. In my own case there was not the slightest impulse communicated to the swelling when the patient coughed (but this might occur in the case of any rupture tightly strangulated), and there was the peculiarity of the attack commencing with cramp, and severe pain in the leg and thigh of the affected side, arising, no doubt, from pressure upon the branch of nerve found during the operation lying over the rupture. When still more fully developed, the existence of this rupture would, of course, become more evident, and the diagnosis from femoral rupture easier, the base of the sac being situated more internally and lower down than in the femoral variety.

In performing the taxis, keeping in mind the direction of the sub-pubic opening, pressure should be made in a direction outwards, backwards, and upwards.

With regard to the operation, I did not experience any great difficulty in its performance; but I was fortunate in having a spare person to deal with. I cannot suppose that the division of the heads of the triceps muscle, as advised by Gaderman (South's Chelius), can ever be necessary. In Mr. Obré's operation, the pectineus was divided; in my own case, however, there was no difficulty in getting down between the borders of the pectineus and adductor longus. Differences in the precise mode of proceeding will be necessary, according to the position to which the rupture has advanced. The size of the muscles also in different persons will have an effect in modifying the steps of the operation.

Newcastle-upon-Tyne, 1856.

Clinical Researches
ON
CHLOROFORM.

By M. CHASSAIGNAC,

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CHAPTER I.

Hitherto the administration of chloroform in operations has been directed in the following manner:—A patient is about to be operated upon; the surgeon and his assistants, with apparatus, are ready; every one is at his post. The inhalation being performed, the time to begin the operation differs according to the opinions of the surgeon. Those who fear beyond measure the effects of anæsthetics commence as soon as they have satisfied themselves of the insensibility of the skin by pinching, and if the patient struggles, he is restrained. Besides, amongst surgeons who operate before having brought their patients to the state of "collapse," some suspend the inhalation, whatever may happen, if once insensibility of the skin has existed; and some continue it even after having commenced the operation; but another, whom the daliy practice of giving chloroform has rendered more confident, gives it at the first onset until "collapse" is produced, and does not commence his operation until this condition is perfectly established.

These two methods appear to us defective, though not to the same degree, nor in the same manner, but both possess disadvantages which it would be useful to remove from practice. Let us examine rapidly in what they consist.

The surgeons who operate upon the first indication of cutaneous insensibility have assuredly the advantage in not compromising themselves much, with regard to the possible dangers of chloroform; but, in reality, do they derive from their method the real and great advantages of this agent? We think not. They limit themselves to a mere demonstration, without results worth obtaining. To cause a patient to inhale (as if to satisfy one's conscience) a few drops of chloroform, and then to tell him, who throughout the operation has not ceased to struggle and cry, that he has not experienced the slightest pain,—is that, indeed, a part which the surgeon can accept? Let us act more seriously. If we have not sufficient confidence in chloroform, let us plainly refuse it to our patients; but from the moment that we do grant it to them, let it be done so as to ensure its full advantages. Employed otherwise, chloroform in our eyes is nothing more than a deception—a palliative which, it is true, takes away the preliminaries, always dreaded, but which has the inconvenience of exciting a state of agitation and inordinate movements likely to compromise the skilful execution of the operation.

Those who do not operate until collapse is complete expose their patients to serious dangers. On the one hand, the anæsthetic collapse is something so far removed from the normal conditions of life, that, in a physiological aspect alone, there would be room for most legitimate apprehensions, even if unfortunate facts had not still further justified them. On the other hand, if the patient be in a state of perfect collapse, however strong may be the faith of the surgeon in the innocuousness of chloroform, it is very difficult for him not to occupy himself at times with the general state of his patient and to confine himself entirely to the operation which he performs, more particularly if his assistants are inexperienced. There is then a division of thought in what requires undivided attention. Our strictures upon the two methods of administration spoken of above are summed up thus: as to the first, insignificance, and as to the second, danger undergone by the patient, and distracted attention on the part of the operator. It is not thus that we understand the employment of an agent so useful as chloroform, and which, in spite of accidents, is nevertheless an acquisition to good surgical practice.

One word simply upon these accidents, which, relatively to the very frequent use of the material, are excessively rare. The accidents from chloroform will no more cause it to be discontinued than the accidents upon a railway will put a stop to the use of that valuable means of transport. When immense and numerous advantages are due to an invention, it is not in the nature of man to renounce it at the sight of some inconveniences which are attached to it.

I will here describe in a few words the manner in which chloroform is administered in my own practice.

1st. I employ a sponge tied up in one of the corners of a square napkin. The sponge should be of a middling size, half as large as a man's fist; if smaller it continually requires fresh moistening; if larger it produces too abundant an evaporation, and the proportion of atmospheric air which mingles with the anæsthetic vapours becomes relatively insufficient. The napkin, which contains the sponge in its knotted corner, covers up the patient's eyes, so as to hasten and facilitate the anæsthetic stupor. It prevents also too large a proportion of air mingling with the vapour of chloroform.

2nd. The patient is placed in a recumbent posture, unsupported by bolsters or pillows, it being indispensable in my opinion that the horizontal position should be completely maintained.

3rd. The patient should always be surrounded by a sufficient number of assistants, to put down all agitation and keep him still, whatever he may attempt to do. We avoid in this manner the irregular and violent motions that might produce a fainting fit.

4th. During the first inhalations, the sponge is kept at a distance, and then brought closer by degrees, with all the precautions that the case may require. I then concentrate my whole attention on the symptoms which reveal the degree of anæsthetic action: the following are the sources of information to which I apply:—

A. The state of the pulse.

B. The state of the respiration, appreciated by inspecting the epigastric region, which expresses in a far more significant manner the state of that function than the costal walls of the thorax.

C. The patient's face, which by its sinister expression often indicates the approach of danger, long before the respiration and pulse have caused any serious apprehension.

D. I attend with particular care to the last manifestations of the period of agitation, and the first appearance of the state of collapse. At this moment I immediately remove the sponge, and wait for the stage of "tolerance." Lastly, when this stage is fully established, on the slightest manifestation of returning sensibility, I give the patient small quantities of chloroform by means of the above-mentioned apparatus.

This, then, is the manner in which proceed, and these are the means by which I seek to obtain, before operating, what I call "anæsthetic tolerance." The inhalation is commenced with all due caution, and when the period of agitation arrives I allow it to pass off, without suspending the inhalation until the patient arrives at the state of collapse. As soon as this is manifested I suspend completely the inhalation. I wait until the respiration and pulse become regular, and until the patient is plunged into that peaceable sleep which in many persons succeeds to the first stages of anæsthesia. This sleep—with perfect regularity of the great functions; with decrease in the number of pulsations; with complete equilibrium of the respiration, which is deep and calm,—constitutes for me the state of anæsthetic tolerance.

I can affirm, from having experimented a great number of times, that when the patient has arrived at this state he is subject to no kind of danger, whatever may be the time during which it is prolonged. It is to be remarked that in this state the general insensibity and muscular resolution are present almost in the same degree as in the period of collapse. But when the "tolerance" exists, sensibility will revive, if we do not take, in this respect, particular precautions. And it has been observed that, in patients arrived at this state of almost saturation, very small quantities of chloroform, in doses incapable of bringing on any accident, suffice to sustain the anæsthesia, without disturbing in any way, the state of "tolerance" in which the economy is plunged. We have, then, every kind of security that we can wish for: first, against pain, complete insensibility; secondly, against dangerous functional disturbance, perfect regularity of the functions. And besides, the surgeon, exempt from all anxiety on the score of the anæsthesia, can give himself up entirely to the operative department.

This state of "anæsthetic tolerance," unfortunately, is not always as easy to obtain as one might believe; there are subjects whose constitution is, in some manner, opposed to it. It would seem that we can only obtain from them excitement or collapse, and that the medium state, which constitutes essentially "tolerance," cannot be produced. They commence as do nearly all subjects, by excitement, and arrive at collapse; but as soon as this is about to finish, it gives place to new excitement. It is only in children, in certain women, or in adults very debilitated, that we pass from the period of excitement to that of "tolerance" without observing the state of collapse.

The employment of chloroform would leave nothing to desire, if one could succeed in freeing it from the states of excitement and collapse, and in establishing at the outset that of "tolerance." This certainly is observed sometimes, but in an exceptional manner; and the means which have appeared to us the most proper to produce this advantageous result, are the slowness and the well-managed graduation of the inhalation. We see, after what has been said, that the surgeon gives himself much more trouble when he wishes to obtain in his patient the state of tolerance; but if he succeeds in obtaining it, he is amply recompensed by the assistance which it contributes towards the success of the operation.

The action of cholorform, then, presents itself to us as being able to produce three different effects—excitement, collapse, and tolerance. Some present tolerance from the outset. Others arrive at tolerance immediately after the period of agitation. The great number do not arrive at tolerance except after having passed through the other two states. Lastly, certain subjects seem "*refractaires*" to the anæsthetic tolerance.

CHAPTER II.

THE ANTI-HÆMORRHAGIC ACTION OF CHLOROFORM DURING OPERATIONS.

It is impossible for surgeons, who have performed a great number of operations with the assistance of chloroform, not to have been struck by the small quantity of blood lost during severe operations by certain subjects submitted to the action of this anæsthetic. It is for my part a remark that I have made a long time back. Without otherwise attaching importance to this particularity, I have not been able to prevent myself comparing the smallness of these losses of blood with the extent of those which have taken place during great operations performed without the assistance of chloroform. Reflecting on the mechanism, in virtue of which could be produced such a result, I understood very quickly that a subject in whom the physical and moral excitement caused by an operation accelerated the pulse to 120, ought by an open artery to lose more blood than the one who had only 60 pulsations a minute. I believed that I had found in this fact something very advantageous, and of direct application to practice, with respect to hæmorrhages that take place during operations. But to draw conclusions, and, above all, conclusions applicable to practice, something else besides impressions and reasonings, however plausible they might be, was necessary. I resolved, then, to submit to special observation a certain number of patients operated upon at the Hôpital St. Antoine. It is the results of these operations which I desire to submit to the attention of surgeons.

Eleven subjects, of whom three underwent amputations of the thigh, four of the breast, one of the leg, one an entire resection of the first metatarsal and of the first cuneiform bone, one a resection of the humerus, and one of the inferior maxillary bone, have furnished me the occasion to state that, whether in the period of collapse or in the period of anæsthetic tolerance, the losses of blood which constantly attend similar operations were enormously lessened, and that particularly in two cases (an amputation of the breast in a woman, and of the thigh in a man) the operation was performed, so to speak, without any loss of blood. In the latter case it is true that the compression of the femoral was made with great exactitude; but that which proved to us that the chloroform had a considerable share in these results was, that when I ordered my assistants to suspend compression, all the surface of the wound, with the exception of the principal artery, which furnished a very moderate jet, gave but a very inconsiderable quantity of blood, and that we were obliged to wait for the cessation of the anæsthetic state to render possible the ligature of the secondary arteries. As to the patient with the amputation of the breast, who was a little more than twenty years of age, and had come to be operated upon for an adenoid tumour of the right breast, there did not literally flow a teaspoonful of blood during the operation. I was wrong here in not waiting for the awakening of the patient before proceeding to the dressing, and it is worth remembering that there happened a hæmorrhage which did not show itself until a certain time after the application of the dressing, and several hours after the patient had been taken back to her bed. It is not only with regard to arterial hæmorrhages that chloroform can be considered as diminishing loss of blood; it is with respect also to those of a venous character. We know, in fact, that the badly restrained struggles of a patient dispose him in a particular manner to venous hæmorrhage; for he is under the influence of two causes which play a considerable part in these sorts of hæmorrhages—first, an imperfect respiration; and secondly, energetic muscular contraction. Chloroform removes these two causes, but only by producing collapse or anæsthetic tolerance.

If we wish to render a rational account of the means by which happen the phenomena which occupy us, it will be sufficient to compare briefly the state of a patient operated upon under the ordinary conditions with that of one who has arrived at the period of tolerance. With the first, the fear of the operation about to be performed hurries the pulsations, increases the force of the impulse of the walls of the heart, and retards the free arrival of venous blood, not only in consequence of the impediment brought to respiration, but also by the efforts which the patient makes.

Thus, increase in the number of pulsations, augmentation in their intensity, stagnation of the venous blood, such are the circulatory conditions of the patient who submits to an operation without the employment of anæsthetics.

If these have been administered, what do we see? The pulse is less frequent and less strong, and there is a normal state of the respiration and venous circulation.

In comparing situations thus opposed, it is not difficult to understand the difference of the results with regard to the hæmorrhagic tendency.

Let us examine now what conclusions we can draw for practice from what has just been laid down. In this respect, and as the result of our observations, we might note—

1st. That the sedative action of chloroform during the period called tolerance diminishes in the patients—

A. The number of pulsations.

B. The force of the impulse of the beats of the heart.

C. The stasis of the blood, the cause of venous hæmorrhages.

2nd. That the diminution of hæmorrhage during the period of tolerance can render real service in the cases of operations which suppose the possible opening of a great number of vessels.

3rd. That if it is sometimes useful, as has been recommended by some surgeons, not to make the dressing until a certain time after the operation, this advice becomes, so to say, obligatory after the employment of chloroform, the chances of an ulterior hæmorrhage being so much the greater as less blood has been lost during the operation.

CHAPTER III.

ON THE CYANOSIS OF THE BLOOD BY CHLOROFORM.

REMARKS UPON SOME CONSECUTIVE EFFECTS OF CHLOROFORM; SHIVERING, AND ON ANÆSTHETIC STUPOR.

I HAVE often remarked, in performing operations, and principally amputations of the leg and thigh, upon patients under the influence of chloroform, that the blood jet coming from the arteries presented, in place of its bright scarlet colour, a deep dusky tinge, almost like to that of venous blood. This colour proved evidently that the blood had not undergone in the lungs a sufficient revivification or oxygenation, and that there was from that time a commencement of asphyxia. But this does not only exist in cases where the administration of chloroform is defective, but it is positively established in those cases where all precautions had been taken to avoid asphyxia. It has been necessary, then, for us to conclude, from the above, that, even with an inhalation very well performed, the blood of patients submitted to the action of chloroform does not undergo, to the normal extent, the changes in consequence of which the blood becomes arterial from venous.

In looking at this more closely, we have seen that this effect, called by us, improperly, perhaps, "cyanosis of the blood," was observed, at its highest degree during the period of collapse, to diminish afterwards in proportion as the respiration resumed its normal type. If, from motives that we have previously deduced, we might not have already considered the state of collapse as a serious condition during anæsthesia, this circumstance of the cyanosis of the blood attaining its maximum during the period of collapse would have been sufficient to fix our opinion on this subject. But that is not the point upon which we insist at this moment. That which we wish to prove is, that the inhalation of chloroform, at the time even when we practise it in a manner the most discreet and well managed, is accompanied always with a certain degree of incomplete asphyxia, attested by a change in the colour of the arterial blood, the alteration being much more pronounced during the collapse.

There is an experiment that we have never made, but it would not be difficult to try it in certain operations. The experiment would consist in receiving, in graduated tubes, sufficient quantities of blood thrown out by the arteries, and collected at different periods of the anæsthesia. Unless we are much deceived we should find remarkable differences in the colour of the blood in different tubes.

Hitherto this question has been too little studied for us to treat it more at length. We propose to ourselves to examine it more completely, but, provisionally, it has seemed to us that this circumstance of the cyanosis of the blood, even in slightly-established degrees of anæsthesia, deserved to be pointed out to medical practitioners; and still more so the sensible increase of this cyanosis during collapse.

On Anæsthetic Shivering.—There are a certain number of subjects who, after the employment of chloroform, are seized with a shivering of short duration in some of them, and which, in others, may go on increasing into a progressive, and even fatal, coldness, if the surgeon does not struggle early and very energetically against this dangerous tendency. I have had already many times occasion to call the attention of my colleagues, at the "Société de Chirurgie," to this kind of accident. The first time that I observed it was in a patient at the Hôpital St. Antoine, upon whom I had performed the operation for stone by the bilateral method, with the lithotome of Dupuytren. The patient had been taken back to his bed after the operation, no accident had taken place, he had perfectly recovered consciousness, and I had recommended my "internes" to attend to the state of the patient. Nevertheless, at the moment of leaving the hospital, I wished to see him once more. I found him seized with a shivering so intense and determining such deep prostration, that I had no doubt, if unattended to, at the end of half an hour, or perhaps an hour, it would have infallibly proved fatal. I occupied myself then to establish the calorification by all the means that I had at my disposition at the moment. The first attempts produced but a slightly-marked effect; but, in persevering in the use of the same means—viz., friction, with hot brandy and camphor, hot sheets, bottles of hot water to the feet, hot sugared wine internally, I succeeded in reanimating my patient; and when I left the hospital, he was in a favourable condition. This man was perfectly cured. I have not the least doubt that if I had not returned he would have infallibly succumbed. Therefore, since that event, not only have I always thought it necessary to direct the attention to the kind of danger which it portends, but I have also imposed upon myself to watch with particular care for the re-establishment of calorification after inhalations of chloroform.

On Anæsthetic Stupor.—In certain patients, the action of chloroform has consecutive effects, not far removed, but which nevertheless do not produce their peculiar dangerous consequences, until about sixteen, twenty-four, or forty-eight hours. It would seem in these cases that the injury done to the vital forces by the chloroform has been so profound that the patient could not recover from it. He recovers, it is true, from the primitive anæsthesia; but he remains in such a state of half-stupor and prostration, that he succumbs in the short periods that we have just mentioned, without our being able to account for it by the fact of hæmorrhage or of penetration of air into the venous system; nothing, in a word, can give the cause of death if one does not attribute the fatal termination to a certain extent to chloroform. The only circumstance which, in the cases of which we have just spoken, could be mentioned as the cause of death, except chloroform, would be that exhaustion of the nervous power noticed in his time by Dupuytren, but which will remain always something very vague, very mysterious, and very contestable.

The cases in which we have observed what we should call consecutive deaths—a species of slow poisoning by chloroform, referred to operations performed upon old persons or upon subjects extremely debilitated. It was also at the end of those operations that we call "*sidérantes*," to show to what degree they act upon the general state of the powers and upon the entire economy; for example, operations for strangulated hernia, for the removal of large tumours from old and debilitated persons, and upon persons wounded with fire-arms. The number of these facts (still inconsiderable)—their doubtful interpretation—the coincidence of the employment of chloroform with an operation in itself very grave, impose upon us a great reserve, and do not permit us to form conclusions. These are suggestions which we submit to the consideration of practitioners; because we believe it our duty to do so at present, in order to awaken their attention to a cause of death so much the more formidable that it remained unperceived. Until more fully informed, we will admit the possibility of a slow or consecutive poisoning by chloroform.

ON A CASE OF OVARIAN DISEASE:

OVARIOTOMY; DEATH ON THE THIRD DAY FROM DESTRUCTION OF THE BRONCHIAL MUCOUS SURFACE.

By C. Black, M.D., Lond., F.R.C.S., &c.

The subject of the present case was R. S—— a woman of bilio-sanguineous temperament, aged forty-nine years, and the mother of three children, the first of which was born at the expiration of two, the second at the end of eleven, and the third eighteen years after marriage.—For some time before marriage, and until the birth of the first child afterwards, she was delicate in her general health, and frequently suffered from dyspepsia: but after the birth of the first child until two years ago—a period of nearly twenty-four years—her health was exceedingly good. During this period menstruation was regular. In November, 1854, she suffered from inflammation of the right ovary, from which she recovered, and remained well until October, 1855, when she again suffered from ovaritis. This time, however, all the local symptoms were confined to the *left* inguinal region. She again recovered, and remained in good health until the beginning of the present year, menstruation in the meantime being regular. About this period her abdomen began to enlarge; and, as she had not menstruated during the last three months, she thought that she might be pregnant; but, as she had some doubts upon the matter, I was requested to give her the benefit of my opinion. The result of my examination was unfavourable to her view, and led me to the conviction that she suffered from ovarian disease. The abdomen was uniformly distended, and as large as that of a person at the close of the fifth month of pregnancy. There was distinct fluctuation; but, as yet, no solid tumour could be detected in any part of it. An obscure uneasiness in the left inguinal region, a similar sensation in the left sacral region and corresponding hip, and the fact of her having lately suffered from ovaritis on the left side, were the principal data which induced me to locate the disease in the corresponding ovary. The patient herself did not know in which inguinal region the swelling first showed itself.

The treatment consisted in the exhibition of mercurial alteratives, different preparations of iodine, an occasional drastic cathartic, and the almost constant use of diuretics, frequently combined with light vegetable bitters. The abdomen was for some time at first well rubbed every night and morning with camphorated oil, or with an embrocation composed of the tinctures of opium and aconite, and soap liniment; after which it was swathed in a broad flannel bandage. At a subsequent period of the treatment, the daily application of the compound tincture of iodine was made to the skin over the site of the disease. The diet consisted of light, nourishing food, and as much active exercise was permitted as the patient could undergo short of fatigue.

Under these and similar measures, the fluid portion of the disease was six times removed by the kidneys and bowels conjointly; but by the former in particular. After the first removal of the fluid, manipulation of the abdomen detected a solid, movable tumour, about the size of the closed fist, in the left inguinal region. This, after each succeeding evacuation, was found to have increased more and more in size, until at length it occupied nearly the whole of the left side of the abdominal cavity. Shortly after this all medicinal measures ceased to exert any influence either in removing or arresting the disease. Thenceforth the steady enlargement of the abdomen encroached so much upon the breathing capacity of the lungs, that the patient was at length unable to assume the recumbent posture. At this juncture, as immediate relief was urgently demanded, paracentesis abdominis was performed, and nine pints of bloody, serous-looking fluid were evacuated with relief to the breathing.

A considerable amount of prostration followed the operation, which required a week's careful attention to remove. On the second day after the operation the patient, without any apparent cause complained of a fixed, somewhat sharp pain about the angle of the sixth rib on the right side, which was aggravated by pressure during inspiration. There was an occasional dry cough; but a total absence of all sympathetic fever. Auscultation detected, in the spot indicated, a limited pleuritis in the exudative stage, which quickly yielded to the application of a blister, and other remedies. Immediately after the subsidence of pleuritis, slight bronchial catarrh was excited by accidental exposure to cold. This also yielded in the course of a few days to the remedies prescribed, and thenceforth the patient's health steadily improved, until the abdomen had again become so distended that further operative procedure was necessary. The question of ovariotomy, with all its risks and dangers, had already been submitted to the patient and her friends; and, after due deliberation, uninfluenced by the expression of any medical opinion, she desired to submit herself to the operation. Her general health was now as good as, in the opinion of three of my medical brethren and myself, it could be under the particular conditions of her case. An early day was, therefore, fixed for the operation; but, in the meantime, the pressure of the tumour upon the diaphragm and lungs increased so rapidly that it was deemed necessary to perform ovariotomy two days before the appointed time. At this juncture the following particulars were noted:—

The abdomen was full and rounded, but not quite so bulging on the left as on the right side. The distance, however, from the umbilicus to the superior spinous process of the ilium was somewhat greater on the left than on the right side. The skin of the abdomen was smooth, shining, and pencilled with numerous enlarged veins. On the left side a distinct tumour could be felt, occupying the space from above the left short ribs to the ilium and pubes, and from the linea alba anteriorly to the lumbar region posteriorly. The abdominal walls could be slid over this tumour, which felt to have an irregular surface. When the patient lay on her back and attempted to rise without the assistance of her hands, the recti muscles started forth, thus indicating that the tumour beneath was not adherent to them. By vaginal examination the uterus was found to be of its proper size, movable, and its os and cervix not perceptibly deflected to either side.

Operation, twelve o'clock, A.M., *Oct. 5th.*—The temperature of the patient's apartment having been raised to 75° Fahr.; the air of the room having been impregnated with the vapour of hot water, by means of a large kettle kept constantly boiling, in order to lessen the risk of exciting peritonitis; and the patient's legs and thighs having been bandaged with flannel rollers, and subsequently encased in two pairs of worsted stockings, to prevent too great a reduction of of animal temperature during the necessary exposure upon the operating table, chloroform was given, at first slowly, then somewhat more rapidly, until the patient became insensible. An incision was now made from a point three inches above the umbilicus to the pubes, dividing the skin and subjacent tissue, and laying bare the tendon formed by the juncture of the aponeuroses of the oblique and transverse muscles of the abdomen. At the umbilicus, this incision was made to diverge a little to the left, to avoid cutting through that part. The linea alba was next divided to the extent of two inches, commencing one inch below the umbilicus. At this point the peritoneal sac was first entered, immediately on doing which a little ascitic fluid escaped. This opening was enlarged to the extent of admitting the two forefingers of the left hand, with which the contiguous surface of the tumour was explored. It was found to be non-adherent to the abdominal walls; and, on inspection through the wound, it appeared of a dull, pearly-white colour with a bluish tinge. The peritoneum, to the extent of the original incision, was next divided by a blunt-pointed, curved bistoury, guided by the two forefingers of the left hand, the points of which were kept a little in advance of the point of the instrument. In the upper part of the wound the omentum was thus prevented from coming into contact with the bistoury. The left hand was now introduced into the peritoneal sac, and the tumour explored in every direction. Two adhesions to the omentum, and a fibrous band uniting the tumour to the parietal peritoneum just above the middle of the crest of the left ilium, were divided, and the tumour was then attempted to be lifted forward through the wound. It was, however, found that this could not be done without enlarging the original wound, to avoid which the sac, which presented at the wound, was perforated by a middle-sized trocar, and its contents were received into a vessel. The reduction of size thus brought about enabled me, without any difficulty, to lift the whole mass through the wound; and, by giving it an inclination to the right side—the direction which it appeared to take from its own weight—its pedicle was at once brought into view. This was from two to three inches long and four inches broad. It was now, for the first time, made apparent that the more solid portion of the tumour, which was first observed in the *left* inguinal region, and which, during the remainder of its growth, was confined to the corresponding side of the abdomen, was in reality the *right* ovary, which had changed its position to the *left* side.

A double ligature of very strong hemp, well waxed, having been passed round its pedicle, and having been tied with all the force which I could employ, the latter was divided on the tumour side of the ligature, and the mass removed. The operation had now lasted seventeen minutes. The uterus and left ovary having been examined and found healthy, the edges of the wound were at once brought together by interrupted sutures, placed one inch from each other, long strips of adhesive plaster, reaching across the abdomen, were placed between the sutures, another broader strap was placed perpendicularly on each side of the wound, to keep down the transverse plasters, and a further broad strip across each extremity of the transverse ones. A strip of lint, spread with spermaceti ointment, was next placed over the wound, a fold of dry lint above this, and, lastly, a broad bandage of strong calico encircled the abdomen. This was kept in its position by two strips of calico attached behind, brought between the thighs, and fastened in front. The patient was now removed to her bed, her lower extremities were wrapped in hot blankets, and the temperature of the room was allowed to fall to 65° Fahr. A few minutes after being placed in bed she vomited twice, after which there was no further sickness. Two grains of opium were now given, the room was darkened, and the patient left in the charge of the nurse, to whom strict injunctions were given to preserve the greatest quietude.—Two o'clock P.M.: Expresses herself as feeling very comfortable; skin warm and perspiring; pulse 110, slight oozing of bloody, serous-looking fluid from the lowest point of the wound.—Six P.M.: Has slept at times about ten minutes; no pain of the abdomen; pulse 106; soft and compressible; skin hot and perspiring freely; complains of irritation about the top of the sternum, and of a frequent, short, teasing cough. Auscultation detects slight, sonorous rhonchi in the large bronchi of both lungs, but more marked on the left than on the right side. Ordered, liquor acetate of ammonia, one ounce and a half; liquor potassæ, half a drachm; ipecacuanha wine, half a drachm; spirit of nitric ether, two drachms; mucilage of gum acacia, one ounce and a half; water, to six ounces: mix. One ounce to be taken every second hour.—Ten P.M.: Has slept several times since last visit; cough still troublesome, though not so frequent; breathing slightly accelerated; pulse 112, soft and compressible; skin hot and perspiring; tongue clean; slight thirst; has not passed urine since the operation. The catheter was introduced, and six ounces of highly coloured urine, in which was a large quantity of free uric acid, were withdrawn. The food to consist of sago or arrowroot gruel, groat gruel, and barley water.

Oct. 7th, Nine o'clock A.M.—Has passed a quiet night, but did not sleep longer than ten minutes at one time. Respirations 24 per minute; cough still troublesome, and accompanied by a frothy expectoration: mucous rhonchi heard more or less throughout the bronchi of both lungs, louder and coarser in their character on the left than on the right side; no pain beyond a mere soreness of the abdomen; slight oozing of a very faintly bloody fluid from the lower part of the wound on coughing; pulse 120, small, soft, and easily stopped; skin hot and perspiring; tongue large, flabby, injected, and covered on its dorsum with a slight, moist, dirty-white fur; thirst and appetite moderate; bladder not evacuated since last visit. The catheter was introduced, and half a pint of highly-coloured urine—specific gravity 1·026, and containing free uric acid—was withdrawn. Continue medicines and diet.—Three P.M.: Respirations 30 per minute; cough frequent, short and troublesome; sputum aërated, tenacious, of a dirty-white or faintly reddish-brown colour, and is seen by the microscope to consist essentially of the elements of the bronchial membrane, together with blood-discs, and a very moderate quantity of mucoid and exudative cell-growth; slight soreness of the abdomen, but no distinct pain, or tenderness on pressure; no tumidity; pulse 140, small and easily stopped; skin warm and moderately perspiring; thirst moderate, appetite deficient; bowels not moved since the operation; sleep very short, and interrupted by sudden starts, accompanied by an expression of alarm on the countenance; no pain or uneasiness of the head; perfect coherence. The catheter was again introduced, and five ounces of highly-coloured urine, free from uncombined uric acid, were withdrawn. To have beef-tea added to her diet. Ordered, sesquicarbonate of ammonia, four scruples; ipecacuanha wine, half a drachm; water, three ounces. Citric acid, four scruples twelve grains; spirits of nitric ether, two drachms; water, three ounces. To take one large spoonful, in a state of effervescence, every second hour; with one of the following pills:—calomel, three grains; compound ipecacuanha powder, fifteen grains; with sufficient confection of roses to make six pills. A cantharides plaster to be applied to the sternum.

8th—Ten A.M.: I remained with her during the whole of last night. She slept the greater part of the night, but awoke frequently, occasionally starting from her slumbers with considerable alarm. During the night she complained of shifting pain in the bowels, accompanied by flatulent distension, which was at once relieved by hot fomentations of poppy decoction, and by a warm water enema. These were quickly followed by the discharge of much flatus per anum, and by the immediate disappearance of pain. This morning she expressed herself as feeling better. Respirations 28 per minute; cough not quite so frequent; expectoration copious and easy; pulse 120, larger and soft; no pain of the abdomen, except when shaken by the cough; no flatulent distension of the bowels; no oozing from the lower part of the wound; skin warm and perspiring; tongue moist, slightly covered with a white fur; thirst and appetite moderate; has evacuated the bladder by natural effort; urine clear, of a bright straw colour, and free from uncombined uric acid. Continue medicines and diet.—Three P.M.: The same. Blister risen well.—Eight P.M.: Breathing more oppressed; respirations 36 per minute; expectoration very abundant; the slightest cough raises the sputum; the bronchi contain a copious secretion; alæ nasi visibly raised in inspiration; no lividity of lips; pulse 130 per minute, small and easily stopped; abdomen free from pain or tumidity; has several times passed flatus per anum; bladder twice evacuated by natural effort since last night; some degree of restlessness; countenance expressive of alarm; takes beef tea and other food with relish. To continue same medicines and diet, and to take half an ounce of wine in sago-gruel in the space of two hours. Eleven P.M.: Breathing less hurried; respirations 32 per minute; pulse 126, somewhat larger and stronger; faint, dry friction-sound in left sub-clavicular and supra-mammary regions. Other signs and symptoms as before. To have the left chest, not encroached upon by the blister, constantly fomented with hot poppy decoction.

I remained with her during the night. At one o'clock A.M. on the 9th instant, her condition became much worse; the chest signs increased in expression of failing vitality; the animal temperature rapidly fell; wandering pains in the abdomen, chest, and head occasionally manifested themselves; slight incoherence followed; and she sank at half-past five the same morning.

Sectio cadaveris nine hours after death.—Rigor mortis slightly present; abdomen somewhat tympanitic; edges of the wound adherent throughout their extent. On removing the sutures, they did not separate in the slightest degree, and it required considerable force to break up the union which had already taken place. The peritoneum, to the extent of half an inch on each side of the line of incision, was of a faint, rosy blush; whilst the general peritoneal surface was as free from inflammation as on the day of operation. The pedicle ligature was surrounded by a copious quantity of apparently healthy plastic exudation, and was found to be very firmly tied. The omentum, elongated by the growth of the tumour to which it was attached in two places, was adhering, by its lowest point, to the exudation thrown out around the pedicle. The left ovary was healthy, but in the corresponding broad ligament of the uterus, and about half an inch below the Fallopian tube, there was a small cluster of three minute sacs of fluid, the largest of which equalled the magnitude of a small pea, whilst each of the other two was not larger than a pin's head. The largest and one of the others were distended with fluid as clear as water but the fluid of the third sac was of a faint milky appearance. Under the microscope, this fluid was seen to hold in suspension a great number of granular cells, which, in both chemical and morphological characters, were exactly similar to mucus-corpuscles. The opalescent appearance of the fluid of the thirdly-mentioned cyst was proved to depend on fatty degeneration of the granular corpuscles before named, and on the reaction of the alkaline salts of the cystic fluid upon the fat thus produced.

The uterus and other abdominal organs were healthy. About six ounces of slightly turbid fluid occupied the lowest point of the peritoneal cavity.

Thorax.—On raising the sternum, the lungs were observed of their usual volume. Both presented a deep, purplish-red colour, except along the anterior margin of the right lung, where this colour alternated with the natural appearance. The posterior lobes of each lung were of a still deeper colour than the anterior. Both lungs were crepitant throughout, and presented no pneumonic consolidation. The anterior surface of the left lung, corresponding to the extent of the friction-sound heard a short time before death, was adherent, by the merest film of plastic exudation, to the walls of the chest; the slightest force disturbed the connexion. The portion of this lung which rested on the diaphragm was adherent to the latter over a space of two and a half by two inches; this adhesion was firm, and evidently of some standing. At the angle of the sixth rib on the right side, and corresponding to the situation of the pleuritis which followed the operation of tapping, there was adhesion of the pleuræ to the extent of two and a half by one inch. The connexion was formed by plastic exudation undergoing fibroid development. On removing the lungs, and slitting open their bronchi, the mucous membrane of the latter presented an intensely red, swollen, and softened appearance. This appearance was universal in the mucous membrane of the bronchi to the third gradation in size, but it was somewhat more intensely marked in the left than in the right lung. To this extent the membrane equalled in colour that of fresh, raw flesh, or the surface of a granulating ulcer. The surface of the membrane of the larger tubes was besmeared with a thin, gelatinous-looking fluid, of a dirty, faintly reddish-brown colour, tenaciously adhering to the surface beneath, and collected in larger quantities at the openings of the bronchi than elsewhere. This fluid, under the microscope, was found to consist of multitudes of cilia, patches of epithelium, basement patches, blood-discs, and non-granular exudation-cells of diminutive growth. In the smallest bronchi the coloration of the mucous membrane was less intense, and existed in patches, between which the membrane approached more or less its natural hue. The surface of the membrane of these tubes was besmeared with a dirty-white, thin, stringy, aërated, mucoid fluid, which consisted of similar bodies to those of the fluid of the larger tubes, with the addition of mucous-corpuscles. Portions of the mucous membrane of the latter bronchi, carefully dissected off and submitted to the microscope, exhibited an almost complete destruction of its ciliated epithelium, with considerable loss of its basement structure, laying bare the subjacent fibrous tissue. Portions of the membrane of the smallest bronchi exhibited similar pathological conditions, but in a less degree.

The heart was healthy; its left cavities were moderately distended with blood.

General and microscopic structure of the diseased mass.—The tumour consists of a large central mass, from which three large cysts, distended with fluid, diverge in opposite directions. The weight of the whole is twenty-five pounds and a half. The largest of these cysts is smooth, of a pale fleshy-looking colour on its external surface, and pencilled with vessels, the veins, in many places, being extremely varicose. Its walls differ in thickness in various places. It contained from four to five pints of a brownish-yellow coloured fluid, mingled with coagula of blood. Its internal surface is lined by a fine, smooth membrane, which consists of a delicate epithelium, resting on a fine basement tissue, and supported by delicate fibres. External to this is a layer of fibroid tissue, which encircles the cyst, and which imbeds and is composed of elongated cells. Its substance is channelled into numerous sulci, which give lodgment to the bloodvessels. The external coat is formed by the peritoneal covering of the ovary. Beneath the lining membrane of the cyst are numerous ecchymoses, which, when pricked, give exit to a reddish-brown fluid, which, under the microscope, is seen to consist of numerous granular cells, varying from $\frac{1}{4000}$th to $\frac{1}{1300}$th of an inch in diameter, and interspersed with blood-discs. These ecchymosed patches are in immediate contiguity to numerous dilated veins—are limited by a defined margin—are in the process of acquiring independent and separate walls from their circumferential portions undergoing organization—and are, consequently, secondary cysts in the course of formation. In other situations, between the lining membrane of the sac and its fibroid layer, are numerous, fully-formed, secondary cysts, varying in size from a pea to a hen's egg, and containing a pale, limpid, straw-coloured fluid, which is strongly coagulated by heat and nitric acid. This fluid holds in suspension a number of granular cells, varying in size from $\frac{1}{4500}$th to $\frac{1}{3000}$th of an inch in diameter, and flocculi, which consist of simple exudation in a granular and molecular form. These secondary cysts are distinct from the walls of the parent sac, and, as such, admit of perfect isolation. Where situated in the walls of the parent sac, the middle or fibroid coat of the latter is much thinner than elsewhere; nevertheless, it is always present, and extends in a thin layer over the outer surface of the secondary cysts. The structures of the latter bodies consist externally of fibroid tissue, similar to that of the parent cyst, which fibroid tissue admits, in some instances, of division into two or more layers, the inner one of which supports, on its internal surface, a thin basement structure, surmounted by an extremely delicate epithelium. By the action of dilute acetic acid these structures are rendered more distinct, and, as it were, isolated from each other.

The walls of the two other large cysts consist of precisely the same structures as those of the one already described. They are, however, free from secondary cysts, and vary in thickness from one-seventh to three-fourths of an inch. One of them is divided by a septum into two parts of nearly equal size, each of which holds from one to two pints of fluid. The septum consists of a band of fibroid tissue, covered on each side by the lining membrane of the sac. In the one division of this sac, the inner portion of the fibroid layer is gathered into bands and irregular nodules and masses, to which the lining membrane is very loosely attached. At the bottom of this division of the sac are three circular openings, which are formed by the fibroid layer and lining membrane, and which lead into the more solid central portion. Two of these openings are three-fourths of an inch in diameter; whilst the third is not more than three-eighths of an inch. The third of these large cysts has walls somewhat thinner than either of the other two. Its internal surface is very smooth in the greater part of its extent; but where the sac springs from the central mass, bands of fibroid tissue, similar to the columnæ carneæ of the heart, stretch from one part of its internal surface to another. In the midst of these bands are three openings in one place, of half an inch in their longest diameter, and formed by the fibroid tissue and lining membrane of the sac. An inch from these is another opening of similar size. All these openings lead into the central mass of the tumour. The solid, central portion of the tumour is five inches long, four inches wide, and varies in thickness from one to four inches. Its structure generally is similar to that of the healthy ovary. In some parts of it, however, its texture is somewhat firmer than that of the ovary; whilst in others its tissue is loose and opened out. To one point of it is attached the pedicle, which is four inches broad, and which is formed by the broad ligament of the uterus. Along the upper, middle, and lower border of the pedicle, vessels pass to this tumour, those of the middle being the largest. About an inch from its upper border is the corresponding Fallopian tube, which is considerably hypertrophied, patent throughout, and admits an instrument twice the diameter of the natural calibre of the tube. At the part the farthest distant from the attachment of the pedicle is a nodular swelling of two inches in its longest diameter, and elevated about half an inch above the surface of the central mass. This swelling, when cut into, gave exit to a pale, yellowish-brown, grumous-looking fluid, which consists essentially of granular corpuscles, mingled with a few fat-cells. At one point, in the substance of this nodular mass, is a small sac, three-fourths of an inch in diameter, and filled with a soft, yellow, pulpy substance, which is adherent to the sac, from which fine, delicate, thread-like septa pass into its substance, and which, under the microscope, is seen to consist of multitudes of molecules, granules, non-granular exudation-cells, all in a state of fatty degeneration, and of yellow pigmentary matter. This sac is connected with the substance of the central mass by an external layer of condensed fibroid tissue. Internally, it is lined by a fine membrane, which consists of a thin, condensed, homogeneous basement tissue, surmounted by an epithelium of a faintly-yellow colour.

Remarks.—In commenting on the above case, the question of paramount importance is, to ascertain the immediate cause of death, and how far this result was influenced by the operation which the patient underwent. In operations of such magnitude, in which professional opinion is divided respecting the propriety of their performance, reliable data are the only true means by which doubt and hesitation can be removed, and which thus become the safest guide in the question of operative procedure.

If, in the above case, it can be shown that death was not due to the immediate effects of the operation, but to causes of an *accidental* and *casual*, rather than of a necessarily consequent, nature, then the data which we derive from it, notwithstanding its fatal issue, speak strongly in favour of the propriety of subjecting such cases to operative interference. The great amount of comparative success, which, in the hands of Dr. Clay, has attended the operation of ovariotomy, ought, it would seem, to silence any objection as to the propriety of its performance, and to render the relation of a negative success unnecessary. Where, however, an operation has been but partially accepted by the profession, the result of every such case, irrespective of its issue, ought to be recorded, in order that the positive and negative data thereby furnished, may lead to a just estimate of the value and propriety of such operation. In eliminating, in the above case, the cause of death in accordance with this view, it is manifest that the post-mortem appearances observed in the abdominal cavity were the result of action conservative of life—that this action had not exceeded healthy bounds,—and that the cause of death must therefore be sought in other parts of the body.

In the engorged and deeply congested lungs—in the condition of the pleuræ—and, especially, in the almost complete destruction of the bronchial mucous surface, this cause had a manifest existence. To the injury sustained by the lungs, and to the consequent effects produced upon the blood and nervous system, death was no doubt due. It, therefore, becomes a matter of interest and importance, to ascertain whether this injury was the result of causes connected or unconnected with the operation. The occurrence of pleuritis, without any assignable cause, immediately after the operation of tapping, and the supervention of a temporary bronchial affection on the subsidence of this, argue the existence of a predisposition in the lungs to disease; but the extreme mildness of the stethoscopic signs of the first stage of the bronchitis which followed ovariotomy—the unusually short duration of this stage—the almost complete absence from the sputa of the usual inflammatory products of bronchitis—and the superabundance therein of the natural elements of the bronchial membrane, contrasted with the extensive mischief presented by this structure after death, show, in my judgment, that such mischief was not produced by inflammation arising *per se*, but by the *direct* action of the chloroform inhaled. The quantity used did not exceed an ounce and a half, whilst the probable quantity inhaled did not, owing to the slowness with which it was at first given, to the high temperature of the room, to the consequently rapid evaporation of the chloroform, to its immediate withdrawal after the supervention of insensibility, and to the saturated condition of the handkerchief at the time of its discontinuance, exceed six drachms. The chloroform was prepared by Messrs. Smith, of London and Edinburgh, had a specific gravity of 1·500, and was of good quality. Such a sample, then, and such a quantity, ought not, in a healthy condition of the lungs, to have produced the results which were here observed; and the fact that they did so must be ascribed to the local predisposition to disease which was probably engendered in the lungs by the long encroachment of the tumour on their breathing capacity, and to the consequently low vitality of the structure with which the chloroform came into direct contact. Hence the exhibition of chloroform was, in this case, a great evil; but it was a *necessary* one.

If it be asked whether or not, in the presence of the fact, that the patient had recently suffered from chest disease, I was justified in performing ovariotomy, and that too, at the time I did, my reply must be, that I was, and for the following reasons:—That, at the time of operation, there was no disease of the lungs; that the patient's general health was as good as it could be under the then existing circumstances; that the tumour was rapidly enlarging in an upward direction; that its pressure upon the diaphragm had, for the last three days, produced frequently-recurring spasmodic action of that muscle, accompanied by sharp, lancinating pains and sighing breathing; that, owing to the same cause, the respiration had become so embarrassed, that the patient was unable to assume the recumbent posture from a sense of impending suffocation; and that, with a full knowledge of the dangers which the operation involved, she earnestly requested its performance.

In the question of the nature of the disease, as bearing upon the operation, it has been shown, by the general and microscopic details before given, that the diseased mass showed no trace whatever of malignancy, and that it was consequently favourable for extirpation. Its minute examination is also eminently favourable to the view, that its more solid, central portion consisted of the substance of the ovary, hypertrophied and more or less altered in its structural elements and arrangement, and that the three large cysts arising therefrom were Graafian vesicles in a similar hypertrophic condition.

That the fluid portion of the disease should have been six times dispersed by the aid of medicines is a fact worthy of special notice in the treatment of such cases, as offering a striking exception to the general rule of their unamenability to the influence of medicinal agents.

Chesterfield, December, 1854.

ON "PHANTOM TUMOURS" OF THE ABDOMEN.

By E. Headlam Greenhow, M.D.,

LECTURER ON PUBLIC HEALTH AT ST. THOMAS'S HOSPITAL, PHYSICIAN TO THE WESTERN GENERAL DISPENSARY, ETC.

I desire to bring under the notice of the Society a kind of abdominal tumour, often most embarrassing to the practitioner and very alarming to the patient, but of which I have been unable to find an account in any publication with which I am acquainted. We are indebted to Dr. Addison for the elucidation of the true nature of these tumours, and, in speaking of them, I shall adopt the name "phantom tumours," which he is accustomed to use in his clinical teaching at Guy's Hospital. During an experience of many years, I only remember to have met with seven or eight cases of the kind, in each of which I was expressly consulted for the tumour, and not for the derangement of health with which it is invariably associated. Probably, as the disordered health on which they depend is of very common occurrence, I should have met with these tumours more frequently had I sought for them. The five cases the main features of which I intend briefly to detail had all but one been seen by other practitioners before I was consulted. In the investigation of this excepted case, I had, as will subsequently appear, the benefit of being assisted by a leading metropolitan physician.

The first case of the series came under my notice so long ago as fifteen or sixteen years. The subject of it, a married lady aged twenty-six, had already borne several children, was in delicate health, and suffering especially from uterine derangement. She was anæmiated, unable to take active exercise, and complained much of anomalous pains, and of tenderness along the course of several large nerves. The greatest source of anxiety, however, was the presence of a tumour in the right lumbar region, apparently about the size of a cricket-ball, but less regularly round. It appeared to be movable, and, if attached posteriorly, to be so only by a narrow pedicle. The impression that it conveyed on a manual examination was that of a loose body floating upon or amongst the viscera. In character, the tumour was firm and unyielding, free from tenderness, and somewhat changeable in site; for although invariably to be found on examination, its precise relative position varied a little from day to day. I have neglected to note how long the tumour had existed, but several opinions had been taken before I was consulted, and the lady had gone safely and without inconvenience through a pregnancy since its discovery. She had been recommended to place herself in the hands of an eminent surgeon, with a view to the extirpation of the tumour—a procedure to which I most strenuously objected. I have not seen the lady since, but I know that she has subsequently borne several children, and I learnt several years ago that she was in better health, and had undergone no operation; she is, I believe, alive at the present time. The treatment I adopted—chalybeates, and other means likely to improve the general health—was just what I now believe to have been best suited to the case. It would, however, have been most satisfactory to my patient and her family, and very conducive to my own reputation, if I had been able to explain the cause of the tumour respecting which they were so anxious, and to assure them that it was but a symptom, and an unimportant one, of a troublesome and tedious but not dangerous malady. Although I was unable to form any satisfactory diagnosis of the nature or connexions of the tumour in this case, its history served to teach me that there is at least one kind of abdominal tumour that leads to no ill result, and requires no interference —a lesson by no means devoid of practical value.

The next case, which did not present itself until after an interval of several years, was very similar to the preceding one. It also occurred in a married lady, about thirty years of age, who had recovered imperfectly from her last confinement, suffered from profuse leucorrhœa, and was very feeble and unequal to exertion. The tongue was furred, the appetite bad, and the action of the bowels irregular, diarrhœa alternating with constipation. "Has occasional qualmishness and nausea, frequent occipital headache, and suffers much from abdominal pains unaccompanied by tenderness. She also complains of a contracted sensation across the abdomen." The tumour, which in this case was likewise on the right side, appeared a good deal larger than that already described. Although at first disposed to view it as an ovarian tumour, I abandoned this idea upon a more careful examination, being partly influenced by the circumstance that, although a tumour, apparently as large as a full-sized fœtal head, very plainly existed in the right iliac region, the abdomen, on careful measurement, was found not to be really larger on that side. Another very remarkable feature in the history of the case, of which I was assured by the patient herself, but the correctness of which I confess to have doubted,—was that the tumour had entirely disappeared previous to and during the period of her last pregnancy, notwithstanding she had been under treatment for it at an anterior time. Although in a somewhat different situation, I at once referred this case to the same class as the last, and expressed a hope, based upon that experience, that, however troublesome, the tumour would not prove of any serious consequence. This lady is alive, and in the enjoyment of very tolerable health. She has borne several children since the time of my attendance, but of the tumour I know nothing beyond the fact that it has, as I predicted, led to no unpleasant result.

The third case is that of an unmarried lady, aged between twenty-five and thirty, who was believed to be in a state of hopeless ill-health when she came under my care. The tumour closely resembled both those already described; was more fixed in situation, being in the right hypochondrium; was less movable under examination, and seemed about the size of a large orange. The more prominent symptoms of illness were evidently referable to spinal affection, and under treatment directed to it my patient slowly and gradually recovered. Although I did not at that time understand the connexion between these tumours and spinal disorder, yet, relying upon the harmlessness of the tumour in my two previous cases, I treated it as of secondary importance.

The case to which I am now about to refer is, perhaps, the most interesting of the series, for it clearly shows the really unimportant nature of these tumours, and yet how very easily they may be mistaken for examples of serious disease. Mrs. ——, aged forty-four, having borne a family, had suffered for several years from menorrhagia alternating with profuse leucorrhœa. She had also suffered from a variety of other ailments referable to spinal irritation, itself due, I do not doubt, to the disarrangement of the uterine system. I was consulted by her, somewhat more than three years ago, for a tumour in the left hypochondrium, the appearance of which had been long preceded by occasional attacks of pain in that situation, of such intensity as to make her writhe about in bed, and for the relief of which opiates, even in large doses, were of little avail. This pain was of paroxysmal character, often coming on very suddenly, and sometimes without apparent cause, although more frequently as a consequence of over-exertion. It sometimes lasted for many days without intermission, but with variable intensity. The employment of counter-irritation to the spine, and of tonic treatment calculated to improve the general health and lessen the uterine flux, were of essential service; and when, at a subsequent period, I sought for the tumour it was not discoverable. After an interval of many months I was again consulted for the tumour, which, sure enough, had very evidently returned, and is described in my notes of the case as "an ovoid movable tumour, free from tenderness, and apparently floating loose in the left hypochondriac region; it is difficult to estimate its size, but it appears to be somewhat reniform, and at least twice the natural size of a kidney." It is further added that the patient was in all other respects in good health; that no fulness, tenderness, or pain existed in the posterior lumbar region, and that the urine was normal. Notwithstanding that I believed the tumour to be of the same character with those already related, I thought it desirable that the patient should have the benefit of a second opinion, particularly as I had been unable to find it on a previous occasion. An eminent physician who was called to my assistance devoted much pains to its elucidation, but without arriving at any more satisfactory conclusion as to its nature than myself. We agreed that it could not be ovarian, from its position; that it was too movable for an enlarged kidney, which was also discountenanced by the absence of any unusual fulness, resistance, or tenderness posteriorly; and that it had not the character, neither had the patient the aspect, of malignant disease. Although in great doubt on the subject, we treated it on the supposition that it might eventually prove a hydatid growth. Some time afterwards other symptoms of spinal irritation manifested themselves; and although I had never seen an avowed case of Dr. Addison's "phantom tumours," I began to suspect that this would prove an example of them, as it subsequently did. The patient, very shortly after the consultation, went from under my immediate observation, although she continued to act under my instructions. In the course of a few weeks she wrote me word that the tumour had dispersed; and a few months ago, being again in town, she afforded me several opportunities of satisfying myself that the tumour really was gone.

A few weeks since, I was called in to another case of the same description, which has entirely removed any lingering doubt in my mind as to the nature of these tumours. The patient, aged thirty-nine, and married for many years without ever being pregnant, has suffered for sixteen or seventeen years from dysmenorrhœa and from several of the various anomalous affections so frequently found in association with derangement of the uterine functions. She is very prone to attacks of what she calls spasms of the heart; but the ailment which causes most anxiety is a tumour in the left side of the abdomen, just below the margin of the ribs. The tumour is analogous to those already described; is movable, firm, and free from tenderness; but on a careful and somewhat prolonged manipulation, partly frictional, partly kneading, it seems to melt away under the fingers. On examination, very considerable tenderness was found to exist for the space of an inch and a half near the centre of the dorsal vertebræ, pressure by the sides of which produced pain in the chest, and also pain extending round to the left side. Entertaining not the slightest doubt that the tumour here is really a phantom, I have turned my patient's thoughts from its consideration, assuring her that it is unimportant, and am directing my treatment to the alleviation of the spinal irritation and to the improvement of the general health.

In considering the history of the cases I have described, it is noticeable that all of them were females suffering from some disturbance of the uterine function; and that whilst spinal irritation unequivocally existed in three of the patients, its presence may not unfairly be inferred in both the others. Although I have not myself seen any examples of these "phantom tumours" in the male subject, I can easily believe that they may occasionally occur under the influence of slight forms of spinal disease. I half suspect that a medical friend of mine, since dead, who had a tumour in the right hypochondrium, which disappeared for many months, during which he was in the enjoyment of good health, and reappeared at a subsequent time *pari passu* with a return of former bad health, was really the subject of one of these "phantom tumours." That such occurrences are much rarer in men, is readily explicable when we recollect the rarity in them of spinal irritation, of the multifarious symptoms of which these tumours are amongst the most important, since, if not understood, their presence may, as in several of the cases I have related, readily lead to the belief that the patient labours under some very serious disease—ovarian, malignant, or cystoid. The real nature of these tumours is spasmodic; their seat probably the abdominal muscles; for although, in every instance I have seen, the tumour appeared to be in the abdominal cavity, the melting away of my last case under manipulation is inconsistent with the belief that they are very deeply seated. Their cause is spinal irritation, the irritated spinal nerves producing spasm in the muscles to which they are distributed. I need scarcely observe how entirely this explanation of their character is in keeping with the history of the tumours in the foregoing cases. If it be admitted that they are formed by the spasmodic contraction of portions of the abdominal muscles, it is no longer matter of surprise that patients suffering from their presence should pass safely through pregnancies; that the tumours should cause no actual enlargement of the abdomen; that they should sometimes disappear spontaneously; that having thus disappeared they should sometimes return; that they should be removed under the use of remedies calculated to improve the general health, and to remedy the cause of the local irritation to which they appear referable; that they should change their relative position from day to day; or, lastly, that they should be temporarily dispersed under the manipulating hand of the physician. In confirmation of the apparent reality of their presence, and of my assertion as to the embarrassment and anxiety they cause to the practitioner who is ignorant of their true nature, I may point to the fact that the abdomen has been laid open by the surgeon at least five times for the removal of abdominal tumours which were found not to exist. Most probably all of these were really examples of these "phantom tumours;" and yet the reality of their existence must, in each of these cases, have been impressed upon the minds of the patients and their relatives, as well as upon that of the operator and his colleagues, before he would have proposed, or they acceded to, so very serious an operation.

I should have been unwilling to bring this subject before the Society in so incomplete a form, and probably would have left it to an abler hand, had I not learnt in conversation with several friends of wide experience, that they had likewise met with examples of these puzzling tumours, without being aware of their true character. I trust that even this imperfect sketch may lead to the clearer elucidation of the subject, by directing the attention of other observers towards its investigation, and may serve to avert some of the anxiety and doubt felt by myself when the earlier cases came under my care, as well as of the uneasiness experienced by persons suffering from a disease apparently of a serious description, but the precise character of which is unknown.

Upper Berkeley-street, December, 1856.

CASES ILLUSTRATING CERTAIN DISEASES OF THE BRAIN.

By J. Russell Reynolds, M.D., Lond., &c.

Cerebral and Ventricular Hæmorrhage.

Case 1.—A. C——, a married woman, aged forty-nine, a laundress, having habitually good health, although occasionally complaining of pain in the forehead; temperate in her mode of life, and with sufficient work to live comfortably, and not addicted to drinking; was in her usual health on the 7th October. On the 8th at nine o'clock, A.M., she was washing in the yard, and standing over the pail, when, after blowing her nose violently, she felt her legs give way under her, and fell; she was lifted up and taken into the house. She was quite conscious of all that took place around her, and affirmed that she had not for a moment lost herself; but she could not move the left upper or lower extremity. She retained her power of speech, and gave a distinct account of her falling immediately after blowing her nose. Half an hour after the attack she was carried up stairs and laid upon the bed, and immediately she lost all perception and the power of speech. At two P.M. I saw her, in conjunction with my friend Mr. William Adams. She was then lying on her back, in profound coma, with stertorous respiration, and immobile but equally dilated pupils. Both arms fell instantly when raised and allowed to drop; the same condition existed in the lower extremities. There was slight resistance in each arm to the movement of extension, but no marked rigidity. Sensibility appeared universally extinct; but the muscles of either leg contracted slightly upon pinching the skin of the corresponding foot. At four P.M., after removing six ounces of blood, the stertor ceased; the patient raised her head a little, and turned it towards the side; but died at a quarter past four.

Sectio cadaveris, forty-eight hours after death.—Rigor mortis present and equal in both upper and lower extremities. Irides equally dilated. Integuments bloodless. Dura mater highly vascular; not abnormally thick or adherent. Pia mater also highly vascular, both large and small vessels. Over the right hemisphere, at a point corresponding with the parietal eminence, the large vessels were quite empty for the space of a square inch, and the intervening membrane was perfectly bloodless in appearance. Upon removing the brain, some blood was seen on the inferior surface of the middle lobe, close to the margin of the Sylvian fissure. On section of the hemispheres they were found pale; and the upper wall of the right lateral venticle was higher and more bulging than that of the left. Upon opening the lateral ventricles they were found filled with dark clotted blood, which extended into all the cornua; the clot which existed in the descending cornu of the right lateral wall of the ventricle was continuous with a large clot in the substance of the right hemisphere, the right thalamus opticus, and the lower portion of the adjoining corpus striatum. The lateral wall of this ventricle was, however, entire; and the extra- and intra-ventricular clots communicated through the descending cornu only. The third ventricle, and the iter a tertio ad quartum ventriculum, were filled with clotted blood. No other morbid appearances were recognised.

Remarks.—In this case there were two attacks, and the diagnosis of each was comparatively easy, In the *first*, suddenly induced, distinctly limited, but completely developed hemiplegia, without any obscuration of the intellect, and without any notable prodromata, afforded a combination of symptoms which, when occurring as the immediate sequence of a violent effort, could leave no doubt upon the mind, as to the existence of hæmorrhage into the cerebral substance. In the *second*, sudden and profound coma, with stertorous breathing, bi-lateral paralysis, and immobile iris, occurring as the sequel of hemiplegia, were equally characteristic of ventricular hæmorrhage. The first attack differed in its symptoms from congestion in presenting no intellectual change, with the distinct limitation of the paralysis to one side. The second attack differed from congestion in the profundity of the coma (stertor and immobile iris). From symptoms of softening the attack differed, in the first instance, by the absence of prodromata and of mental obscuration, while there was perfectly developed hemiplegia. The second attack differed from that of softening in the general distribution of its phenomena, the bi-lateral paralysis, and the complete abeyance of mental faculty.

It is by no means so uncommon as was at one time supposed to meet with cases of cerebral hæmorrhage in which paralysis has occurred without loss of perception; but it is somewhat rare to find such extensive ventricular hæmorrhage as that which existed in the case now recorded, without any marked rigidity or convulsions. However, the recurrence of an apoplectic attack in the manner described,—viz., the sudden onset of profound coma and general paralysis, as the sequel of an hemiplegic attack,—is almost pathognomonic of ventricular hæmorrhage occurring as the sequel of hæmorrhage into the cerebral substance.

Grosvenor-street, Grosvenor-square.

A Mirror
OF THE PRACTICE OF
MEDICINE AND SURGERY
IN THE
HOSPITALS OF LONDON.

> Nulla est alia pro certo noscendi via, nisi quam plurimas et morborum, et dissectionum historias, tam aliorum proprias, collectas habere et inter se comparare.—Morgagni. *De Sed. et Caus. Morb.* lib. 14. Proœmium.

ST. MARY'S HOSPITAL.

Tumour of the Orbit, first noticed about a Year ago, bulging the Eye forwards, and producing imperfect Vision; Exploration showing it to be Encephaloma; Question of Operation; Extirpation of the Contents of the Orbit; Recovery.

(Under the care of Mr. Haynes Walton.)

A girl, fourteen years of age, whose general appearance—bright complexion and high spirits—conveyed the idea of excellent health, was sent to Mr. Coulson, on account of a tumour in the orbit, but was ultimately transferred to Mr. Haynes Walton, in his senior's absence.

The morbid mass occupied the inner side of the orbit, bulged the eyelids about three-quarters of an inch, keeping them open, and thrust the eyeball upwards, outwards, and forwards, although less in the last position, as the cornea was concealed by the outer commissure. The superimposed conjunctiva had a healthy look, and, except a few enlarged veins in the skin of the lower eyelid next the tarsal border, no preternatural vascularity was present. To the touch, it conveyed a sense of fluctuation, and might readily have been taken for a cystic formation. The lachrymal apparatus at the inner corner of the eye was not interfered with. Vision was imperfect, and, when the eyelid was raised so as to expose the pupil, all objects viewed with both eyes appeared double. About Christmas of 1855, the growth was first noticed, and it seemed stationary till three months ago; the greatest ratio of increase has been within the last few weeks; till then it was merely inconvenient, now, however, there has been pain, but of a trifling character.

The circumstances of the case rendered the propriety of some treatment unquestionable, and the great probability of malignancy did not escape Mr. Walton's attention, yet he said he could not be certain on this head, as there was a degree of mobility that had never been, so far as he could remember, present in any of the malignant affections of the orbit that had come under his care, and he had seen not a few. The blooming appearance of the girl he did not allow to influence his judgment on the side of non-malignancy, as experience told him that cachexia was not a common concomitant in the early stage of soft cancer. He determined, therefore, in the first instance, to explore, especially as neither the poor girl, nor her mistress, who accompanied her to London, had been made aware of the probability of cancer, and the only alternative should such prove to exist. The conjunctiva was incised to a small extent, and the growth exposed, when the brain-like aspect dispelled all idea of any thing except encephaloma. A portion submitted to the microscope corroborated the coarser character.

Now that the recurrence of cancer is so fully recognised, a question has been raised against operating. This was discussed by Mr. Walton. He said that he still maintained the views he had published some time ago in the chapter on Malignant Affections, in his work on the Eye, referring to the paragraph, which runs thus:—"When we have satisfied ourselves as to the malignant nature of a tumour of the orbit, experience shows, that in the case of the disease in other situations, surgical interference is, as a general rule, injudicious; and we have abundant evidence that there is nothing in their position which exempts them from the laws by which our treatment of malignant disease in general should be regulated. Under certain circumstances, however, an operation may be not only permissible, but necessary. When, either from their original position or from the direction of their growth, such tumours are in close contact with the roof of the orbit, they are liable, as they increase in size, to cause absorption of the bone, and death from pressure on the brain. In such cases, after having made the patient fully aware of the danger of his position, and having explained that our interference is not with the hope of effecting a permanent cure, but merely with the view of averting impending death, it will be proper to deviate from the general principle, and to excise the tumour, removing at the same time the whole of the contents of the orbit."—p. 570.

We think there can be no doubt of the soundness of these views. Indeed, until it can be proved, or even fairly shown, that the removal of a cancer in any way shortens life, by the more rapid development of the disease locally or internally, we hold an operation to be admissible and even recommendable, if only, in any way, it mitigates a present suffering, or renders the patient a happier being for months, or even weeks, now that the suffering of an operation can be taken away by chloroform.

Mr. Walton removed the whole of the contents of the orbit. The cancer had not any connexion that the handle of the scalpel did not readily break through. The most adhesive part was at the apex of the orbit, where a portion had pressed behind the eyeball. The bulk altogether was greater than it appeared to be when *in situ*. The inner wall of the orbit was much bulged, and the upper slightly affected. There was but little bleeding, and not a ligature was used. A small strip of sponge stayed the slight oozing that ensued after the orbit was cleared out.

The manner in which the operation was executed will bear a few remarks, because in it we recognised an absence of all the ceremony and of crooked instruments that it was thought necessary heretofore to use in performing this simple measure. His directions given in the work above-quoted are short and simple:—"When the eyeball cannot be laid hold of with the fingers, and it is seldom, when there is enlargement, that it may not, a large pair of tenaculum forceps is the best substitute, because they can be readily shifted from place to place, and quickly laid aside when the fingers may be applied. With a small scalpel the reflections of the conjunctiva are cut through, whether first above or first below, or in any other direction, should depend on circumstances; the operator should proceed in the manner most likely to facilitate the subsequent steps of the operation. While dissecting at the upper edge of the orbit, the levator palpebræ should be divided as close to the tarsus as possible. The division of the other muscles, and of the vessels and nerves, now occupies attention. The inferior oblique muscle must be severed close to its bony attachment; the trochlea of the superior oblique cut from the bone, and the eyeball turned from side to side, while the knife is swept around the orbital walls to divide the cellular connexions and the small vessels and nerves. The muscles, the optic and other nerves, and the ophthalmic vessels are now to be divided at the apex of the orbit, to effect which the eyeball should be pulled forwards and inwards, and the scalpel or scissors used on the outer side, the slant of the outer wall of the orbit affording more room for the instruments in that direction. Lastly, the lachrymal gland is to be dissected away, together with whatever fat and cellular tissue may have been left."—p. 617.

The patient recovered from the effects of the operation without any untoward symptoms.

Necrosis of the Condyles of the Femur in a Child Five Years old, commencing two Years ago, from a Fall; Extension of the Disease to the Joint, with Formation of Abscesses; Amputation; Sequestrum found within one of the Condyles; Recovery.

(Under the care of Mr. URE.)

OUR readers will recollect that we have lately put upon record several cases of necrosis of the tibia, of both the acute and chronic forms, and when making our observations upon them, we took the opportunity of referring to this morbid condition in other bones, not forgetting the femur. This bone, although less commonly affected than the tibia, demands more attention on the part of the surgeon, as its surfaces are so completely surrounded by numerous muscles and tendinous structures. On the other hand, the tibia, throughout its entire anterior aspect, is covered only by the skin. Operations, therefore, for the removal of sequestra and portions of dead bone from the femur have to be performed through very deep wounds, and sometimes prove dangerous from their contiguity to important structures. The articulating surfaces of the condyles of the femur are very rarely implicated, as contrasted with the head of the tibia. In the cancellous structure of the head of the latter bone, necrosis and abscess, as Mr. Stanley has observed, are remarkably frequent. Within the last few months, we have watched two cases in which necrosis commenced in the central portions of the condyles of the femur, and formed distinct sequestra. The first of these is at present a female patient in St. Bartholomew's Hospital, under Mr. Stanley's care, in Sitwell ward, who has been an inmate for the last nine months. The knee-joint is anchylosed from extension of the disease, which commenced within one or both of the condyles of the femur. Several fistulous openings communicated with these, and on the 3rd of May last, Mr. Stanley removed from the interior of one of the condyles a small sequestrum; both condyles communicated with one another at that time. In this case, the disease has progressively increased, so as to involve the knee-joint somewhat more extensively, and it was the intention of this distinguished surgeon to have amputated the limb on Saturday last, but it has for the present been deferred. Now, the other case is very similar to Mr. Stanley's, and occurred at St. Mary's Hospital under Mr. Ure, the particulars of which we are glad to bring before our readers to-day. The patient is much younger, being a strumous child, five years old, the disease depending upon a fall two years before, which had so far extended as to exhibit, on entering the hospital, a fistulous opening in the outer condyle of the femur, through which a probe passed an inch and a half. Several abscesses formed around the joint, which became greatly enlarged; the disease continued to extend, and it became necessary to remove the limb. Besides extensive disorganization with pus inside the joint, a distinct sequestrum could be seen filling up a cavity the size of a hazel-nut, situated in the centre of the epiphysis of the external condyle. The little fellow, whom we saw several times under most precarious circumstances, ultimately made a good but very slow recovery, having met with many drawbacks, as the details of the case show. It is reasonable to conclude in both of these cases that the disease commenced in the central portion of the condyles of the femur, and could Nature have thrown off the sequestra with facility, a cure might have resulted. The preparation of the bone in Mr. Ure's case which has been placed in the museum of St. Mary's, forms one of the most instructive that can be studied, as illustrating the wonderful efforts made by Nature to eliminate the disease.

Not less interesting than these two cases is an instance of necrosis symmetrically affecting both condyles of the femur, and communicating with the knee-joint, recorded by Mr. Wm. Adams in the seventh volume of the "Transactions of the Pathological Society." A sequestrum was present in both condyles in an advanced stage of separation, each being the size and shape of a large thimble, and accurately filling their cavities. These sequestra were of remarkable density in the neighbourhood of their joint surfaces, and protruded within the cavity of the knee-joint, as might be imagined from the appearance of the following drawing, which gives an excellent idea of this unique and remarkable specimen.

The disease here must have previously implicated the bony structure, and then spread to the soft structures. This preparation would almost explain how a cure might be expected in such a form of disease; for if it were possible that the sequestra could pass into the cavity of the knee, and there become isolated without inflammation and its consequences, Nature would thus have converted the case into one of movable bodies in that articulation.

Henry E——, aged five years, admitted April 11th, 1856, of scrofulous habit, light, curly hair, fair complexion, delicate skin. Two years previously he had a fall, and struck his right knee, which continued painful for about a month, and then became swollen. The swelling gradually subsided, but recurred a few months afterwards, and was attended with pain in the joint. He became a patient in the hospital, and remained about nine weeks. On leaving, he continued as an out-patient, but getting materially worse, was re-admitted at the above date. The knee was greatly enlarged, exceeding the other in circumference by nearly four inches, and extremely tender to the touch. From two to three inches above the outer condyle of the femur was a fistulous opening, into which a probe could be passed downwards, within the bone, for an inch and a half. The boy was placed on a nourishing diet, and ordered cod-liver oil; all motion of the limb was carefully guarded against.

June 9th.—An abscess which had formed in front of the knee was laid open, and discharged about an ounce of sero-purulent fluid mixed with blood. Poultices were directed to be applied.

August 7th.—During the preceding ten days the condition of the knee became evidently worse. An abscess had formed on the outer side of the joint; this was punctured, leaving a fistulous opening, which communicated with the cavity of the joint. The joint itself had an elastic feel, and measured in circumference twelve inches and a quarter, while that of the other limb measured eight inches only. There was a superficial ulcerated cavity on the inner side of the knee, about two inches by one in extent. He complained of pain referred to the outer side of the patella. The appetite was variable; the tongue clean, and he slept tolerably well. He was ordered steel wine.

13th.—As the boy's health was rapidly giving way, and there was evidently extensive disease of the different tissues constituting the knee-joint, with an unsound condition of the lower portion of the femur, it was determined, after consultation, to remove the limb. Mr. Ure accordingly performed amputation of the thigh at its lower third by circular incision, the patient having been rendered insensible by chloroform. Nine vessels were tied, but very little blood was lost during the operation. A few points of suture, with a compress of lint, and a few turns of a roller, completed the dressing. The boy was placed in bed, and had a draught containing five minims of laudanum.

On laying open the joint, the synovial membrane was found in a state of pulpy degeneration. There was pus in the joint, and also in different parts of the periarticular cellular tissue. There was an opening in the femur, about two inches and a half superior and posterior to its external condyle, sufficiently large to admit a small bougie; this communicated with a cavity, the size of a hazel-nut, situate about the centre of the epiphysis of the external condyle, and which contained fragments of dead bone. The cartilage covering the condyles was eroded to some extent, as was also that of the tibia opposed. The periosteal vessels were much enlarged.

14th.—Pulse 108; skin cool; slept well; tongue clean and moist; appetite good. There was no bleeding from the stump. The laudanum draught was repeated at night.

15th.—The patient slept well; his appetite was so increased that he asked for an additional allowance of food: the tongue was clean; the pulse and skin natural; the stump looked well. He was allowed half diet with eggs, and two ounces of wine.

16th.—General health was much improved; the sutures were removed; the stump looked well.

19th.—The pulse was good; appetite excellent; tongue clean; bowels regular. The stump had healed throughout, with the exception of the angle where the ligatures were placed, two of which separated the day before.

25th.—He continued to improve in health, and gained flesh considerably; took his food better, and slept more soundly, than he had done for weeks before the operation.

26th.—Two more ligatures separated, one only being left. The patient was so far recovered as to be able to sit up in bed.

29th.—On dressing the stump, a little pus was seen to ooze from near the centre out of a small opening in the line of the cicatrix. The boy seemed indisposed; the appetite was impaired, but the pulse was good, and he slept well. The strapping was discontinued, and water-dressing substituted.

31st.—The last ligature separated; a second opening made its appearance on the surface of the stump, from which a little thin sanious discharge exuded; the general health was improved.

Sept. 4th.—Both openings were closed, and the stump looked firm and solid; the health was good.

11th.—The patient was feverish, and complained of uneasiness (referred to the stump); had no appetite for food. The wine, &c., were left off, and effervescing saline draughts prescribed.

12th.—He passed a restless night; was very feverish and thirsty; the pulse extremely rapid; tongue clean. There was an erysipelatous blush over the lower part of the thigh, and a small abscess seemed to be forming at the outer angle of the stump; a man in the ward was, at the same time, suffering from erysipelas. A limitary line was drawn round the confines of the erysipelas with a pencil of lunar caustic, and a cooling lotion applied. Saline medicines were prescribed.

15th.—The condition of the stump was much improved; the erysipelas and swelling were abated, as were also the febrile symptoms; but there was the threatening of the formation of an abscess on the inside of the thigh, about seven inches from the extremity of the stump. Dilute nitric acid, with decoction and tincture of cinchona, was prescribed, to be taken thrice daily.

17th.—There was every indication of the impending abscess terminating in resolution; there was no fever; the pulse was natural, and the appetite much improved; there was still some redness of the surface, which was directed to be pencilled over with tincture of iodine, and bran-poultices applied.

20th.—The patient was much improved in every respect: the thigh was well.

He was allowed to remain in the hospital till the beginning of October, when his parents took him home into the country. He was in good health and spirits, with a firm, well-formed stump.

ST. BARTHOLOMEW'S HOSPITAL.

Oblique Inguinal Hernia of the Left Side, reducible; Return of the Hernia; Obliteration of the Inguinal Canal by Wutzer's Operation, with a Description of the Instrument.

(Under the care of Mr. Coote.)

What surgeon has not felt the difficulty, when asked if his art could do nothing to radically cure a reducible hernia? How many are there amongst the rich and the poor, the strong and the weak of both sexes, who are the subjects of rupture?—who has not a personal friend who wears a truss? These questions may be answered by the general statement that hernia is probably one of the commonest surgical affections met with, furnishes numerous occasions over and over again, from the frequency of strangulation even where trusses are worn, for active operative interference, and in too many instances is followed by a fatal result. Any procedure, therefore, which may hold out a possibility of permanently curing a hernia, is a matter of some importance to the surgeon.

In a recent number of this journal appeared a report of three successful cases of Wutzer's operation for the radical cure of reducible inguinal hernia, by Mr. Charles Vandin of Jersey, which cannot have escaped the notice of our readers. At the present moment, there is a patient at St. Bartholomew's Hospital who has been treated by the same operation, with success, as far as can be seen, an abstract of which is subjoined. The operation, as performed by Professor Wutzer of Bonn, consists in the passage of a cylinder, well oiled, into an invaginated portion of the scrotum, running up the inguinal canal as far as the internal abdominal ring, and on satisfactorily effecting this, a needle is passed through the cylinder, the canal, and the integuments, and a concave wooden cover-plate situated over it is pressed against the skin by means of a screw. This instrument, as manufactured by Ferguson of Giltspur-street, is represented in the accompanying wood-cut, somewhat modified and improved upon the original of Wutzer's.

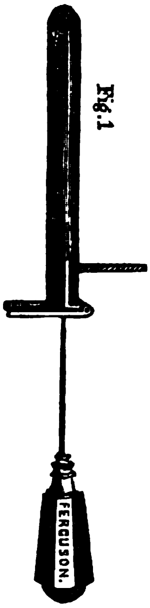
Fig. 1

The cylinder (Fig. 1) is of very hard wood, its diameter varying according to the width of the canal, becoming conical at its blunt extremity. It contains a canal, lined with metal, which conducts an elastic steel needle, flattened on the point, and furnished with an immovable handle (Wutzer's is moveable), which is partly drawn out in the engraving. A round opening near the point of the cylinder allows the needle to pass through, so that, when the cylinder has been properly introduced, pressure upon the handle of the needle sends its point along the interior of the cylinder, and pierces the structures immediately in front of it, and emerges through the integuments. When this is effected, a concave case of the same kind of wood, to correspond to the convex surface of the cylinder, is placed over it, for the purpose of applying regulated pressure. This case is wider than the cylinder, and has an opening near its end, to receive the projecting point of the needle, which thus fixes one end of the cover over the cylinder, whilst the other end is supported upon a movable metallic staff, near which is a screw which presses cover and cylinder together to any degree of strength required, as represented in Fig. 2. A piece of cork is finally applied over the end of the needle.

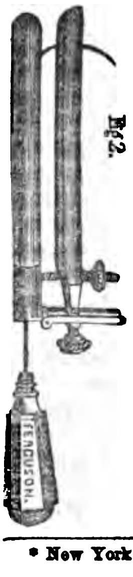
Fig. 2

This mode of proceeding was first brought before the profession in this country at the Medico-Chirurgical Society in 1854, (The Lancet, vol. i. 1854); and in the United States of America in the earlier part of the same year.* With regard to the operation, its object is to close the inguinal canal altogether, by invaginating a portion of the scrotum, which becomes retained by adhesive inflammation. This cannot be effected in all cases of this form of hernia, as in old people and others with a long existing rupture the canal is wide and short, its walls are relaxed, and the large circumference of both rings forms impediments to a successful union. In such cases the operation should not be tried. On the other hand, young, healthy, robust persons, whose age may not exceed forty years, who are engaged in active pursuits, and whose inguinal canals are not perceptibly altered in form, nor in structure, offer the most favourable chances of success. Of 57 cases referred to in 1854, no death or dangerous symptoms followed in any one, and the proportional success was large. Up to the present moment, however, this operation has been performed twelve times by British surgeons, without any bad symptoms in any case, and no relapse.

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* New York Journal of Medicine, vol. xii. New Series.

We hope this important operation will meet with a fair trial at the hands of our hospital surgeons, when we will again refer to the subject.

Thomas B——, aged thirty, was admitted into Harley ward on October 7th. The patient is a fireman on board of one of her Majesty's steamships. The existence of an oblique inguinal hernia of the left side, which was quite reducible, and for which he wore a truss, prevented the continuation of his employment. He was ruptured several years ago when in the West Indies.

On the 11th of October, Wutzer's operation was performed as follows: The skin about the scrotum was carefully shaved, and the hernia was reduced, the patient lying on his back with his thighs flexed and raised. The point of the left forefinger was placed upon the scrotum, about an inch below the abdominal ring of the affected side. It was then carried, with its palmar surface directed upwards and outwards, through the ring into the canal, pushing the yielding skin of the scrotum into the canal as far as necessary, so that its apex of invagination would reach the internal ring. The cylinder, well oiled, was now introduced by the right hand, the finger being withdrawn as it entered. This was managed very nicely, with some manipulation. The cylinder being now completely within the canal, the needle was passed through it, the invaginated skin, and the external integuments; the cover plate was then placed over it, and gently pressed against the skin by means of the screw, and the end of the needle was covered with a piece of cork.

Mr. Coote remarked, after the operation had been performed, that this method of curing hernia had been resorted to upon several occasions by English surgeons, although this was the first time it had been done in London. Mr. Strettin, he said, had operated at Renkioi, Mr. Wells at Malta, and Mr. Vaudin at Jersey: the results were reported to be favourable.

The application of a truss is always an inconvenience to the patient, and in the present instance prevented the man from following his occupation. Beef-tea was ordered instead of meat.

Oct. 12th.—The screw which pressed upon the upper fragment of wood was loosened.

20th.—The instrument is removed. The patient has complained occasionally of pain. Once, the day following the operation, he took an opiate. The invaginated portion of the integument is adherent, and completely fills up the inguinal canal. There is a little suppuration where the needle passed through the skin, but in other respects the man is well. He was ordered a bread poultice.

He is lying in bed for a short time, when the truss will be applied for a month or two; after which he will be allowed to dispense with all support.

CHARING-CROSS HOSPITAL.

Malignant Disease of the Clitoris; Association of three Varieties of Cancer—epithelial, melanotic, and encephaloid; successful Removal; histological Examination by Dr. Hyde Salter.

(Under the care of Mr. Canton.)

Of all parts of the body which have been affected with black cancer, we think its appearance in the clitoris must be extremely rare. We have known its occurrence in the labia, but, so far as we can discover, the vagina and rectum have been free from it. With respect to the last, no mention is made of it in Mr. Ashton's work on "Diseases of the Rectum and Anus;" and although so very rare in the human subject, melanosis has been met with in the anus of the horse. It is by no means uncommon in the testis. Its presence, therefore, in such an organ as the clitoris, united with two other varieties of cancer, proves of unusual interest to the pathologist. As will be seen by reference to the minute description of the tumour, its external layers were composed of epithelium a third of an inch in thickness, whitish in colour. Next came the great bulk of the tumour of a pinkish grey. These two structures, as distributed, resembled the section of a kidney, in their similarity to the cortical and medullary substance of that organ. At one of the extremities of the tumour the melanotic portion commenced, and extended in the direction as represented in the drawing, Fig. 2, which shows a section of it. The tumour, after its removal by Mr. Canton, is well seen in Fig. 1. From the histological elements entering into the composition of the diseased mass, we have evidence of the co-existence of three forms of cancer,—the epithelial, melanotic, and encephaloid; or, as some pathologists would declare, the epithelial and the encephaloid, the latter being infiltrated with black pigment; but such actually was not the case here, although these structures were assuredly contiguous. The growth of the tumour had been noticed only six months; it did not affect the neighbouring glands, but was confined solely to the situation described. The interesting feature, in a pathological point of view, in the present instance, is the presence of the three forms of cancer mentioned, in one organ, contiguous to one another. The question of arrangement of a general cancerous growth, therefore, such as this is, under one of the varieties of this disease must prove embarrassing. In relation to this, Wedl has observed, in his "Pathological

Histology," that various forms may co-exist in one and the same tumour, as is not unfrequently the case, for instance, in cancer of the breast, where the growth in its development in one place corresponds with gelatiniform cancer, in another with medullary, and in a third with fibrous cancer. Thus the character is derived solely from the preponderance of the one form or of the other, as no strict logical distinction between them exists.

In the 6th vol. of the "Transactions of the Pathological Society," is an example of the co-existence of the villous and epithelial forms of cancer affecting the pharynx and œsophagus, given by Mr. Henry Gray, but in point of interest it must yield to the instance we record to-day.

As a companion to this interesting case of Mr. Canton's, the notes of which have been furnished by Mr. Ablett, the dresser of the patient, we will give, in a future number, an example of hypertrophy of the clitoris successfully removed by the same surgeon.

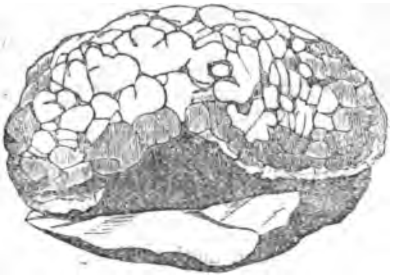
M. H——, aged sixty-six, a short, spare, and sallow-faced female, was admitted, labouring under malignant disease of the clitoris. She has been a married woman until a year ago; her husband was a healthy man. Has had seven children, all of whom were also healthy. Her constitution appears to have been excellent, she has suffered but little from sickness, and at present expresses herself as being quite well, with the exception of the malady for which she has come under treatment.

About six months ago the glans of the clitoris began to enlarge and became extremely tender and sensitive. The increase in size has been gradual, but during the last two months more rapid, and the part has latterly been the seat of throbbing, burning pains. She has never received any injury to the organ, or ever suffered from any form of venereal affection. The pains are much increased by walking or other exertion, and the rest is occasionally disturbed by them. Micturition is not attended with inconvenience, except such as arises from the tumour overlaying the meatus. All adjacent parts appear to be perfectly healthy, and no disease can be detected in the internal organs of generation. The inguinal glands on each side are free from enlargement or tenderness. The tumour is of a light pinkish hue, appears to involve the glans clitoridis only, but is adherent also to the upper part of the left labium major. A very little dissection was required to remove the growth; the hæmorrhage was slight, and at the expiration of a fortnight cicatrization was complete.

The following account of the microscopic and other characters of the growth was kindly drawn up by Dr. Hyde Salter:—

The tumour was the shape of a kidney or bean, the concave surface attached, the convex and lateral surfaces free. The surface had the appearance of being smoothly, superficially, and minutely lobulated, giving it at a little distance a warty look; some parts *were* warty—quite rugose and granular, The whole surface was epithelial, a smooth, even layer of epithelium following all the irregularities of the surface beneath it, and the epithelium of the ordinary character of that on the lesser labium or a little thickened. These appearances are represented in Fig. 1.

FIG. 1.



On making a longitudinal section, its internal structure was found to bear a special relation to its external appearance and shape. Its free or convex surface was then seen to be composed of a thick layer of epithelium, about one third of an inch thick, marked by lines at right angles to the surface, as if it were composed of closely-packed, radiating columns. It was opaque, soft, and friable, almost white in colour. Underlying this cortical portion was the great mass of the tumour, of a pale pinkish grey, semi-transparent and firm. From the shape of the tumour, and the relative distribution of these two materials, they bore very strikingly the same relation to one another as the cortex and medulla of the kidney, of which, on making a section, it was impossible to help being reminded. From the inner surface of the epithelial layer, at one extremity of the tumour, projected a small mass of material very similar in appearance, but rather softer and more flocculent, and bounded by a crescentic line of black material, exactly resembling melanosis. The curve of the cortical portion of the tumour was circumferential to its pedicle or attached portion, whilst the curve of the melanotic deposit was circumferential to a point on the inner surface of one of the extremities of the cortical portion, and it was at once perfectly clear to the eye that these two portions of the tumour had started from these respective points, the lesser epithelial growth bounded by the melanotic circle spreading into the greater growth, or principal mass of the tumour; and the intersection of these two curves marking the boundaries of these two centres of growth had, coupled with the differences of colour, a very striking and indicative appearance. Starting from one part of the pedicle of the tumour could be clearly seen radiating lines spreading towards the circumferential portion, thus confirming the other appearances.

On submitting portions from these respective structures to the microscope, the following appearances were seen:—

a. The warty cortical portion was seen to consist entirely of scaly epithelium, with finely granular contents, in other respects not to be distinguished from ordinary scaly epithelium. This portion was entirely cellular, neither fibres nor free granules. (Fig. 5.)

FIG. 2.

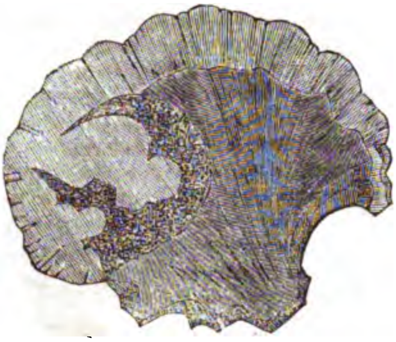


FIG. 3.

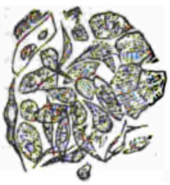


FIG. 4.

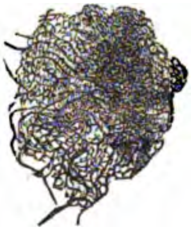
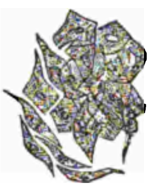


FIG. 5.



b. The white cerebral portion, bounded by the melanotic crescent cells not to be distinguished from ordinary cancer cells, of all sorts of shapes, mixed with epithelium scales of exactly the same appearance as the epithelium above described. Among these cells there was a great abundance of free granules, but no fibrous elements. (Fig 3.)

c. The melanotic portion was very peculiar. It consisted of a matrix of small, indistinctly-marked cells, closely packed together, amongst which were intertwined in all directions multitudes of fibres of yellow fibrous tissue. (Fig. 4.) The cells and fibres seemed perfectly independent of each other; none of the cells appeared undergoing a process of fibrillation; no fusiform cells; nothing resembling connexion either normal or morbid. The pigmentary matter giving the structure its characteristic appearance was distributed in granules and small masses throughout this cellulo-fibrous material.

KING'S COLLEGE HOSPITAL.

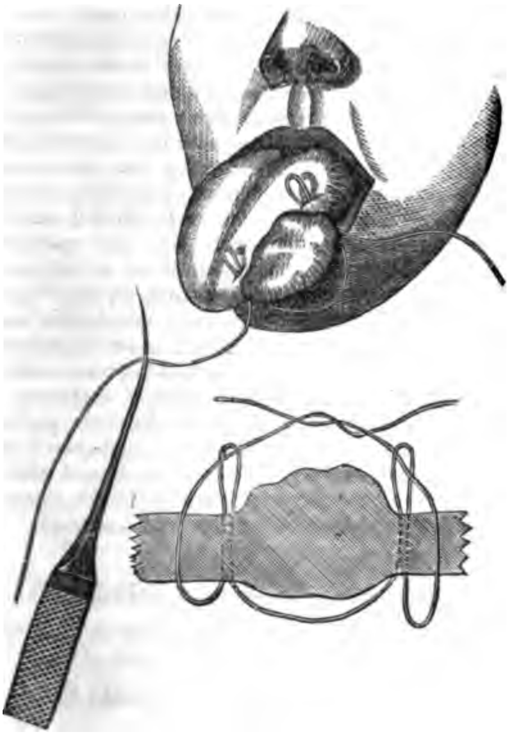
Nævus on the Side of the Tongue growing rapidly the last twelve Months, to the size of a Barcelona Nut, and impeding Speech; Strangulation by means of a new form of Ligature; Cure.

(Under the care of Mr. JOHN WOOD.)

THE vascular tumour of the tongue, in the subjoined case, although it existed as long as the patient could remember, and remained the size of a pea for some years, was most probably non-congenital. We know that it does originate sometimes even late in life. Its enlargement, in the present instance, became very marked during the past twelve months. Many of these nævi remain stationary for some time, and not unfrequently increase in size to an alarming degree within a comparatively short period. We saw an instance of this kind under the care of Mr. Lawrence, at St. Bartholomew's Hospital, in March last, in a child seven months old, who had a small nævus on the neck at birth; but its increase was so rapid, that it formed an enormous flattened tumour, larger than a double fist, occupying the temporal region, involving the whole of the left ear, and passing on to the upper part of the right side of the chest and neck, having a number of vessels ramifying upon its surface. The child's health was good nevertheless. Mr. Lawrence remarked at the time, that it was the largest he had ever seen in so young a child. In such a tumour as this, the *ligature* was out of the question; he treated it therefore by injections, on two occasions, with perchloride of iron, at different points, with partial benefit. The child was ultimately lost sight of. It is important, therefore, in very young children, to destroy a nævus as soon as possible. The tongue is not a very common situation for one of these growths, and, when present, must be peculiarly sensitive to the irritating effects of the substances with which it comes into contact. In the case we now record, it was strangulated by means of the ligature, applied in a very novel and simple manner, in the form of a double noose, the advantages of which seem to be its simplicity, and the perfect equality of the pressure throughout. As only one string is used, its application is effected very rapidly, and the single fastening may be made into a bunch, so as to be tightened, if necessary, after the shrinking of the tissues. By the position of two nooses, the tumour is effectually circumscribed. The drawing represents the manner of applying it, perhaps much better than the description given of it in the details of the case.

Jane L——, aged twenty-two, a maid-servant, applied to Mr. Wood, at the Carey-street Dispensary, Sept. 22nd, 1856, for a tumour on the side of the tongue, impeding speech. The patient is a pale-looking girl of fair complexion. She states that she has always had good health, and been regular in menstruation; has noticed a tumour on the left side of the tongue as long as she can remember. This was, at first, about the size of a pea, not at all painful, and remaining of the same size until six years ago (soon after the period of commencing menstruation), when it began to increase, and became slightly painful when pressed upon. During the last twelve months, its enlargement has been more rapid; has never had anything done for it. On protruding the tongue, a tumour, about the size of a large Barcelona nut, is seen on the left side, about half an inch from the tip, involving the whole thickness of the organ at its lateral border. It is slightly lobular, and of a deep purple colour, most evident upon the projecting lobules. Over the surface, particularly at the posterior and outer part, many enlarged and flattened papillæ are evident, spread out apparently by the distension of the tumour beneath them. The tumour can be much reduced in size by pressure, and is evidently a nævus of the congestive or venous kind. She was told to come next day to King's College Hospital, and have it operated on.

Sept. 23rd.—To-day Mr. Wood encircled the tumour with a ligature. This was effected by the use of a handled needle with a slight curve, and armed with a single stout ligature-thread, well waxed and greased, in the following manner:—



First, at the junction of the further and inner borders of the tumour, but clearing its substance, a single noose was passed through the tongue from below upward, the needle being disengaged by catching the thread at the dorsum of the tongue, on the concave side of the instrument. The longer end of the string was then passed again through the organ at the junction of the anterior and inner borders of the tumour, disengaging the needle exactly as before, and drawing it, this time, from the string. The ends of the ligature were then brought round the anterior and posterior borders of the tumour, and passed through their respective opposing nooses at the dorsum; the latter drawn well down into the substance of the organ, and the former tied on the dorsum in a firm knot. The ligature slid easily, and the strangulation was perfect. A small portion of the tongue was cut by the string, but no bleeding whatever followed. The patient was recommended to suck pieces of ice, and to refrain from talking.

24th.—The patient showed herself again to-day at the hospital. Strangulation of the nævus was perfect; no bleeding, and little or no pain.

29th.—She came to the dispensary with a healthy, depressed, firm, granulating sore in the site of the tumour, which had separated the day before without hæmorrhage, after an increase of soreness and pain. It was found on examination, that the ligature had compressed the structures within the constriction to the diameter of rather less than a quarter of an inch, and could easily be unravelled and examined. The sore was touched at the edges with nitrate of silver.

Oct. 31st.—The patient is quite well; the articulation is perfect; very little depression at the cicatrix.

METROPOLITAN FREE HOSPITAL.

Primary Cancer of the Cervical Glands; Ligature of the common Carotid on account of profuse Hæmorrhage.

(Under the care of Mr. Hutchinson.)

Primary cancer of the lymphatic glands is of exceedingly rare occurrence. It does, however, occur occasionally, and our series of illustrations of tumours having the neck for their site would be incomplete were we not to cite the following example of its appearance in the cervical glands. The case, is, moreover, interesting, not only on account of its pathological rarity, but in respect to the surgical measures which became necessary in its treatment.

James M——, aged sixty, a tall and remarkably well-built man, applied as an out-patient on December 5th, 1855. He was a farmer from Hadleigh, in Suffolk, but had become reduced in circumstances. On the left side of his neck was a large ulcerated, cancerous mass, which adhered to the lower jaw above, and involved the belly of the sterno-mastoid muscle behind. It was beyond all chance of removal by operation. He stated that it had begun a year ago as a small movable lump, just inside the chin, which continued for six months before it became fixed to the skin. After it became attached, several others formed lower down, and, enlarging rapidly, the whole joined into one mass. Ulceration had commenced a month ago. There had latterly been much "sharp nipping" pain in it, and he had greatly lost flesh. He had never had a sore either on the lip or in the mouth, and, on careful inspection, not the slightest scar could be found on these parts. A female cousin had died of "cancer of the womb." From extension of the disease deeply about the root of the tongue, he had much difficulty in swallowing, and the whole of the upper half of the sterno-mastoid muscle being involved, he could turn his head but very little. The only treatment adopted consisted in the exhibition of morphia, and a course of arsenic in small doses. He usually slept fairly, and did not suffer much; but the disease rapidly progressed, and by the beginning of February an excavation, capable of containing a large fist, had formed under his jaw, crossing the course of the vessels. There was now a good deal of troublesome œdema of the cheek and eyelid from pressure upon the vein.

On February 4th a most profuse attack of arterial hæmorrhage from the deepest part of the wound occurred. His wife estimated the quantity lost at two quarts. The patient fainted, and remained insensible for some time, and when recovered was found to be quite deaf. Mr. Giles, of the Victoria-road, was called to him; but finding that the bleeding had ceased, nothing was done. A large clot occupied the ulcer.

Mr. Hutchinson saw him on February 6th, two days after the hæmorrhage. He was still deaf, extremely pale, and his pulse had a well characterized hæmorrhagic thrill. Since the bleeding his feet had swelled. He was in hourly dread of a return of the hæmorrhage, and on being informed that an operation would save him from it for the present, he very willingly assented to its performance. The risk attendant upon the operation was fully explained to himself and his relatives.

On the 7th of February, early in the morning, Mr. Hutchinson, assisted by Mr. Chance and Mr. J. H. Jackson, placed a ligature on the common carotid. The man preferred not to take chloroform, and behaved throughout the operation with the greatest patience. From the encroachment of the cancerous mass downwards, the space for the incisions was very limited, and the operation was further rendered difficult by the impossibility of throwing the head back. The incisions practised were small, and the sheath of the artery was opened, and the ligature passed, without either the omo-hyoid, the vein, or the pneumogastric nerve having been seen. The operation was performed throughout with the cutting edge of a sharp scalpel, no director being employed. Some temporary cerebral disturbance followed the tightening of the ligature. The man insisted on being allowed to sit up, and whilst attempting to do so partially fainted. In about an hour, however, he was quite comfortable, and expressed himself very gratefully for the security he now felt against a sudden death from bleeding.

During February 8th, 9th, and 10th, he continued to do well, excepting that he was almost deaf of the left ear, and that the right hand was so tremulous that he could not hold a cup in it. There was, however, no actual paralysis, and he could grasp strongly with the affected hand. After the operation, all pain in the cancer ceased, and its surface sloughed. He slept well, took his food, and was cheerful. On the 11th, his aspect was oppressed and heavy, and the feebleness of the right arm had increased. The wound made in the operation had united by first intention, excepting where the ligature came out. During the 12th, 13th, and 14th, with some slight variations, he continued much the same—heavy and drowsy, but quite himself when awake; his appetite had failed, and his tongue was furred. On the evening of the 14th he appeared remarkably well, and sat up in bed and conversed cheerfully. At ten o'clock, however, he became restless, and his attendants foolishly acceded to his wish to be allowed to get up and sit in his chair. He did so, and whilst walking it was noticed that he dragged his right leg; soon after his right arm fell powerless at his side, and before he could be got back to bed he was quite insensible. In this state he remained till four A.M., when he expired. His wife refused permission for a post-mortem. It had been noticed at times, even after the operation, that his skin, although flaccid and moist, had a degree of pungent heat as if of a febrile state. This would sometimes occur in one part and sometimes in another.

There could be little doubt that death was directly due to the effects of the operation upon the cerebral circulation, and the case is thus a valuable contribution to the records respecting ligature of the common carotid. In all probability, some softening in the left hemisphere had occurred, and the collection of fluid resulting had given way suddenly during the exertion of walking, as described, a few hours before death. Still it may be fairly held, that in all probability the operation prolonged life, since at the time of its adoption his chance was certainly not worth six hours' purchase. The week of existence which the man enjoyed afterwards was also, it must be remembered, free from a tormenting dread of a recurrence of the hæmorrhage, and the almost certainty of immediate death should it do so. Both the patient and his friends, to whom all the chances of the case had been fully explained, expressed themselves to the last as very thankful for the amount of benefit which the operation had conferred.

NORTH STAFFORDSHIRE INFIRMARY.

A TABLE OF OPERATIONS PERFORMED DURING THE LAST TWELVE MONTHS, AND REPORTS OF CASES.

(*Reported by* MR. R. C. GARNER; HENRY GIBBONS, House-Surgeon).

	Cured.	Died.	Total.
Amputation of Thigh	3	1	4
“ “ Leg	4	1	5
“ “ Arm	8	0	8
“ “ Hand	2	0	2
“ “ Breast	1	0	1
“ “ Penis	1	0	1
Chopart's Operation	1	0	1
Removal of Tumours	5	0	5
Cancer Labii	2	0	2
Talipes Equinus	1	0	1
Lithotomy	3	1	4
Excision of Elbow-joint	1	0	1
Total	32	3	35

Within the last four months there have been four cases of lithotomy, one of removal of stone from the female by dilatation of the urethra. The following are short notes of the cases:

1. A boy, aged six, admitted, under Mr. Ball, on June 16th, 1856, with well-marked symptoms of stone in the bladder, which his mother stated had existed for two years. On the 27th a uric-acid calculus, weighing six drachms and seven

grains, was removed, and on July 16th he was discharged cured.

2. A healthy country labourer, aged sixty-two, admitted under Mr. Garner on July 1st, 1856. Mr. Garner sounded him, and gave it as his opinion that there were several calculi. A week after his admission three uric-acid calculi were removed, weighing respectively one ounce and six grains, six drachms and a half, and eight grains. The cure was somewhat protracted by the occurrence of phagedæna. Discharged cured on the 1st of October.

3. A thin, unhealthy-looking child, aged three, was admitted under Mr. Turner on May 23rd, 1856, with symptoms of stone, which had existed for about a year. Two days after admission, the stone having been felt, lithotomy was performed, and a calculus, composed of ammoniaco-magnesian phosphate, removed; it broke repeatedly under the forceps. Fatal on the third day.

4. A healthy young man, aged twenty-one, admitted under Mr. Garner on the 23rd September, 1856, with symptoms of stone, which had existed since he was a lad. The presence of stone having been ascertained, lithotomy was performed, and a large-sized mulberry calculus, weighing an ounce and a half, and composed of oxalate of lime, was extracted. Convalescent; the wound healing, and a great part of the urine passing per urethram.

Removal of a Stone by Dilatation of the Urethra—A little girl, aged four, admitted under Mr. Ball on July 4th, suffering from stone in the bladder. Dilatation was effected by Weiss's instrument, and a cystic oxide calculus, the size of a broad bean, extracted. There was some incontinence of urine for a short time, which eventually got well.

Case of Excision of the Elbow-joint.—A healthy lad, aged twelve, admitted under Mr. Garner on May 23rd, with disease of the elbow-joint of twelve months' standing, the result of an injury. Excision was performed, and in twelve weeks he was discharged cured, the wound being quite healed. Perfect use of the hand and slight motion in the elbow-joint.

Case of Compound Fracture of one Leg and Simple Fracture of the other; Amputation of one Leg.—A healthy old man, aged seventy-three, admitted under Mr. Garner on July 28th, 1856, on account of an accident received from a falling stone. There was a very severe compound and comminuted fracture of the right leg, and a simple fracture of both bones of the other leg; also a very severe injury to the chest, and one of his fingers crushed off. Amputation of the right leg was performed immediately below the knee; no chloroform given. Discharged cured on September 23rd. The left leg firmly united.

HOSPITAL NOTES.

MELANOSIS OF THE GROIN.

The patient, an elderly man, has had a tumour in the right groin for the last two or three years. In his early history, it appears a small tumour was removed from his great toe by Professor Lizars, of Edinburgh. He is now a resident of London, and lately consulted Mr. Fergusson, of King's College Hospital, about the tumour in the groin, which he had no hesitation in pronouncing melanotic; in fact, Mr. Fergusson believed the original tumour of the great toe to have been of the same character, from the appearance of a little black speck alongside of it. This form of black cancer seemed to be now developed in one of its most aggravated forms, and the only chance left the patient was an operation for its removal, which was accordingly performed this day week, when the patient was completely under the influence of amylene administered by Dr. Snow. The growth, which was of the size of a man's hand, and proportionately thick, although thus extensive, did not involve the bloodvessels. One very small vessel was divided, upon which a ligature was placed, Mr. Fergusson deeming it of importance not to neglect any branch, no matter how trivial, in this situation. The lips of the wound were then brought together by stitches and adhesive plaster, covered with lint, and the thigh bandaged. There was no doubt of the nature of the disease from the appearance of the two large masses, which, on section, exhibited the true physical characters of melanosis, one part being so soft as to lead to the suspicion of fluid, and possessing a dark chocolate-brownish colour. When these were removed, Mr. Fergusson excised two or three small glands, which were of a suspicious character, one of them having a few small specks seen on section. The probability is in this case, the disease will return in some of the glands of the abdomen, and destroy life. This patient was operated upon under the influence of amylene, and was conscious a great part of the time, perfectly so when the stitches were being put into the skin, yet he felt no pain.

VASCULAR TUMOURS OF THE MOUTH.

On a previous occasion, Mr. Fergusson removed from the cheek of a young man in King's College Hospital a large vascular tumour, but as there were two more affecting the inside of the lip and cheek, near the right angle of the mouth, these were strangulated this day week by means of the ligature, when the patient was in a state of anæsthesia from the vapour of amylene. The unconsciousness was rather greater here than in the previous case, and was attained in about three minutes. In a child aged six years, submitted at the same time to the operation of lithotomy, anæsthesia was produced in two minutes. This was the first time that a stone was removed under its influence, and it answered admirably. The cases of this day week made twenty-one in which amylene had been used, and not in one instance did either sickness or vomiting set in after the operation, nor any ill effects the succeeding day.

EXTIRPATION OF THE EYEBALL.

On the 7th instant, we saw Mr. W. Jones, at University College Hospital, remove the eyeball of a child which had been injured twelve months before by a fall or a blow, being followed by protrusion and loss of vision. The disease was supposed to be malignant, an opinion which was confirmed on its removal, as a tumour was found situated at the apex of the orbit, involving the optic nerve, and which proved to be medullary cancer, as in the case we report to-day of Mr. Walton's, at St. Mary's. The operation, therefore, will prove but of temporary relief.

Mr. Bowman, at King's College Hospital, removed the eyeball of a child two years old, in October last, similarly affected, but the disease externally formed a conical tumour, which projected a couple of inches beyond the orbit, and was encrusted with discharge, resembling a horn in appearance. The general nutrition of the child was perfect, there were no cerebral symptoms, no glands affected, and yet there seemed no doubt of its malignancy. The operation was undertaken with very faint hopes of preserving life, but Mr. Bowman hoped it would not be attended by any imminent danger to life. On performing the operation, the sclerotica was found filled with serum, and on passing his finger to the back of the eye, he found a considerable mass of disease, extending to the apex of the orbit, and involving the optic nerve. The chief mass of the disease was removed, but it is too certain that it will return. It had existed ten months, and came spontaneously.

RECURRENT FIBROID TUMOUR OF THE HAND.

An elderly man was recently admitted into Guy's Hospital, under Mr. Hilton's care, with a suspicious-looking fungous ulcer, situated over the fleshy part of his right thumb. This had risen from an incision made over that part some months before, to let out, as was understood, some pus, the hand having become sore about twelve months back. Mr. Hilton removed this growth on the 6th instant, when it turned out to be recurrent fibroid disease, extending beneath the annular ligament, and though thus deep, it did not implicate the metacarpal bone. This form of disease is always associated with ideas of a painful character in the mind of the surgeon, from the certainty of its repeated return; hence its name. This we saw verified some months back in a patient of Mr. Luke's at the London Hospital, an elderly woman, who had been subject to tumours of this character, at the back of the neck, over the spines of the lower cervical vertebræ. They had been removed three different times, the last six months before the time we speak of, when, for the fourth time, he removed two of them, with several small nodules from the lines of the old cicatrices. At the same hospital, on the 27th of November, a young woman, aged about thirty, was brought into the theatre to have a flattened tumour, the size of a large walnut, removed from the palm of the hand, close to the middle finger. It looked like a bursal tumour, but on being carefully dissected out by Mr. Wordsworth, it was found to possess undoubted physical characters of the recurrent fibroid tumour; and as it extended beneath the flexor tendons of the middle finger, an immediate consultation was held, when it was determined to amputate the finger, which was accordingly done whilst the patient was under the influence of chloroform.

FLEXION OF ANCHYLOSIS OF THE ELBOW.

A scrofulous young man, with an anchylosed elbow, with strumous disease in other parts of the body, was lately admitted, under Mr. Fergusson's care, at King's College Hospital, on account of the useless joint. This was a case which at first sight promised to be favourable for *excision*, a procedure which Mr. Fergusson contemplated; but as he had not been in a satisfactory state to undergo this operation, he (Mr. Fergusson) thought he would first try to put the arm in a better position than it was, by forcibly straightening it, under the influence of amylene. The position of the arm was nearly straight; it was, therefore, freely flexed, the old adhesions broken up, and placed in a more useful position than before. Two superficial abscesses were at the same time opened. For the present, therefore, this operation will suffice until the patient's state of health becomes sufficiently improved to permit of resection.

THE VAPOUR OF AMYLENE IN MIDWIFERY.

This substance is getting a fair trial at several of the London Hospitals; but a positive opinion has not as yet been pronounced upon its merits at any other than at King's College Hospital for the present, where Dr. Snow himself has so ably administered it. There is one thing that should be remembered when giving it, and that is, to use an inhaler, and not a mere piece of lint. How well soever this may occasionally answer with chloroform, it does not do so well with amylene. It has already been used in midwifery practice by Dr. Tyler Smith with the most satisfactory results. He has observed to us, that he administered it on a folded towel, to the extent of about thirty, forty, or fifty drops at a time, on the coming on of each pain. It produced rapidly a state of insensibility to pain, the uterine contractions remaining undiminished in force and frequency. The recovery of sensibility after pain was over, and the towel removed, was always almost instantaneous. At the time of the birth of the child, the insensibility was as complete as though chloroform had been used. The placenta was detached, and came away readily, and the uterus afterwards contracted well. The pulse was found to be little if at all affected, the child was vigorous and healthy, and did not seem at all influenced by the anæsthetic. Dr. Tyler Smith thinks the advantages, as compared with chloroform, in midwifery, would seem to be the suddenness of its influence and its asserted safety, and the rapid disappearance of the insensibility after the amylene is withdrawn. The only disadvantages he could perceive are the pungent smell and the large quantity consumed. As many questions have been asked as to its probable effects in midwifery practice, we hope the above information will prove useful.

NECROSIS NEAR THE ELBOW-JOINT.

Some months ago, a girl about nineteen years of age was admitted into Guy's Hospital, under Mr. Hilton's care, with a compound comminuted fracture of the arm, extending into the elbow-joint, the result of an injury. This was followed by erysipelatous inflammation and a good deal of suppuration. The general symptoms were urgent for some time; they disappeared, and finally the joint became firmly anchylosed and the girl made an excellent recovery. A fistulous opening, however, remained near the back part of the joint at the lower end of the humerus, which was found to communicate with denuded bone. Mr. Hilton therefore, on the 20th inst., cut down over this part of the arm, and removed a portion of the original fractured bone, which presented the same appearance as when first broken. It proved to be a bit of the humerus, and seemed the only loose fragment which was keeping up irritation.

VARICOSE VEINS TREATED BY NEEDLES AND SUBCUTANEOUS SECTION.

Those students who follow the practice of Mr. Erichsen, at University College Hospital, must have seen him treat varicose veins, we may truly say, scores of times, by passing pins under the veins, and then applying a figure-of-8 suture over them, generally in three places. This produces obliteration of the vein, and some days later the vein is divided subcutaneously, and in three or four days the cure is complete. This was repeated last Wednesday, on a young woman with this condition of the veins of the left leg. At King's College Hospital, a few days back, we saw a case treated by Mr. Henry Lee in the same manner. He passed the pins under the veins on the 7th inst., on the 10th he divided the veins subcutaneously, on the 11th he removed the pins, and on the 17th the patient went out well. The subdivision of the veins after obliteration is a process for which the profession is solely indebted to Mr. Lee as the first to recommend it, and the advantages of such a proceeding cannot but strike the most superficial observer. Mr. Erichsen's practice in these cases differs from Mr. Lee's in that he removes the pins altogether when he divides the vein between them. We do not recollect any single instance, in the large number which we have seen treated, of any bad effects following this plan of treatment. The great secret in the success is to avoid puncturing the vein, and this is effected by lifting it up, and passing the pin well under it.

SERIOUS INJURIES FROM THE EXPLOSION OF A GAS METER.

There is, at this moment, a patient in the Westminster Hospital, under Mr. Brook's care, who is a sufferer from an unusual accident. He is a labourer, sixty-five years of age, and was engaged in drilling a hole, or something similar, in the side of a large iron gas meter on the 15th of January, a candle being held near by a fellow-workman whilst this process was going on. Suddenly the gas within the meter exploded—on, we suppose, its igniting after becoming admixed with a certain proportion of atmospheric air—and burst into several fragments, similar to a shell. One of these severely contused the under surface of the left elbow, which became inflamed and suppurated, requiring very free incisions to relieve tension and let out matter. Another struck the face below the left zygoma, fracturing that bone, passing inwards, penetrating the floor of the orbit, and completely destroying the eye. Suppuration likewise ensued in this situation, requiring several openings, and some small pieces of bone came away. The poor man was admitted in a very prostrated state, and continued so for many days; but when we last saw him, on the 23rd instant, we found him improving. Mr. Brook expected some further little fragments of bone to come away from the face, and observed that the elbow-joint was not involved in the injury. This is probably the first time that such a remarkable accident has occurred, and its effects might have proved of less moment had the meter been of tin, the substance commonly in use for their construction. We have no doubt this man will do well.

PLASTIC OPERATIONS ON THE FACE.

This day week, Mr. Fergusson completed a plastic operation on the face of a young girl with the remains of deformity from sloughing after scarlet fever, which had been most extensive, destroying portions of the cheek and lower lip. He had remedied the greater part of it on two previous occasions, having on the first of these repaired the lower lip by bringing up a portion of the neck, and uniting it with the lower lip, which turned out so well as to afford a capacious under lip. The next thing he did was to enlarge the upper lip by taking a portion of the cheek, and attaching it to this lip, and at the same time connecting it with the newly-made under lip. Both of these operations succeeded admirably, and free union took place. With all this, there was a large opening left in the cheek, with tightness of union of the upper and lower lips. Mr. Fergusson came to the conclusion of bringing a portion of the cheek down to cover this opening, and very satisfactorily accomplished it, making the edges of the opening raw, and fixing the flap by means of sutures. It is to be hoped union will take place, as it will thus completely remedy the deformity caused by the former sloughing. The amylene was given in the present instance, but it did not seem to answer so well in a tedious operation upon the face. Dr. Snow therefore had recourse to chloroform.

Some months before this, we saw Mr. Fergusson remedy deformity arising from former necrosis of the jaw in a young man. The disfigurement was very great, as, nine years before, a large piece of bone was removed. He lost the columna of the nose, and the left ala was so bound down that he presented a most unsightly appearance. Moreover, he had lost a portion of the upper lip, and an opening existed between the nostril and the mouth. The greater part of this deformity was remedied on three occasions by means of hare-lip sutures. The ala was raised, the unnatural opening was closed, and we believe, although we were not present on this occasion, that the septum was made from the lower lip.

REMOVAL OF A LABIAL TUMOUR.

An elderly female, who, when a child, received a blow on the upper lip, from which time a small tumour formed, which increased somewhat in size, and remained stationary to the present time, came into King's College Hospital, in July last, to have it removed, especially as she suffered much inconvenience from it. It was situated beneath the mucous membrane lining the upper lip, to the left of the mesial line, and produced some slight external deformity. Mr. Bowman removed it without chloroform, a single incision being made across it inside the lip, when with little trouble it turned out with the greatest facility, being of an irregular, lobulated shape, pretty firm, the size of an acorn, and, on section, resembling gland-tissue. Mr. Bowman had no doubt of its formation from enlargement of one of the labial glands from the blow, and the situation of the tumour was a most unusual one. No bleeding followed, no stitches were used, and the patient got up and went away as if nothing had happened.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

On the Determining Causes of Vesicular Emphysema of the Lung. By William Jenner, M.D., F.R.C.P., Physician to University College Hospital, and to the Hospital for Sick Children.

After referring to the importance of ascertaining the determining cause of pulmonary vesicular emphysema as a guide for its prevention, and to the predisposing influence of all changes in the structure of the lung which impair its contractility, the author adverted to the fact, that the only force capable of unduly dilating the air-cells called into play during respiration is the pressure of air on their inner surface. He then briefly recapitulated the inspiratory theory at present generally received, and quoted the following passage from the latest exponent and most powerful advocate of that theory :—" The act of expiration tends entirely towards emptying the air-vesicles by the uniform pressure of the external parietes of the thorax upon the whole pulmonary surface; and even where the air-vesicles are maintained at their maximum or normal state of fulness by a closed glottis, any further distension of them is as much out of the question as would be the further distension of a bladder blown up and tied at the neck by hydrostatic or equalized pressure applied to its entire external surface."* The object of his paper, Dr. Jenner stated, is to show, in opposition to these views, that the force called into play by powerful expiratory force is by far the most common and efficient cause of vesicular emphysema of the lung. Powerful expiration is, Dr. Jenner affirms, infinitely the most frequent determining cause of acute vesicular emphysema, and of the chronic vesicular emphysema which accompanies chronic bronchitis. It is probably the constant determining cause of the vesicular emphysema which supervenes on chronic congestion of the lungs and bronchial tubes, and on diseased heart, and of the atrophous emphysema of the aged, and the invariable determining cause of vesicular emphysema whenever it is general, or occupies chiefly or only the apex and border of the lung, and whenever the dilatation of one or more vesicles is extreme. Dr. Jenner denies that during expiration every part of the lung is equally supported and equally compressed, and he affirms that the apex, the anterior margin, the margin of the base, and some parts of the root of the lung, are at once imperfectly supported, and comparatively or absolutely little compressed only during expiration. The thoracic parietes covering those parts of the lung, which are the least supported and compressed, are those which are seen when a person makes a powerful expiratory effort with a closed or imperfectly open glottis, as in hooping-cough, croup, and hypertrophous emphysema, to be driven outwards. These same parts are the most common seats of emphysema. Three cases are detailed by Dr. Jenner in illustration of his position. In proof of the force exerted on the air-cells of the lungs when powerful expiratory efforts are made with a closed glottis, mention is made of the well-known fact, that during the expulsive efforts of labour one or more cells occasionally give way. In a postscript, the author mentions that he had examined several horses for the purpose of ascertaining whether the parts of their lungs affected with vesicular emphysema were situated in those parts of the thorax the least supported and compressed during expiration, and that in all he found such to be the case.

Dr. Sibson said that in 1844 he had published a paper, in which he espoused the inspiratory theory—a theory opposed to that brought forward by Dr. Jenner. He (Dr. Sibson) had attempted, however, to disembarrass his mind as completely as possible of his previous views, while listening to Dr. Jenner's paper, but he confessed that those views had not been in the slightest degree modified by what he had heard. It had been stated that in emphysema, during coughing, the lung rose up into the neck, and above the clavicle; but he maintained that it was not the lung that then rose, but the large venous sinuses of the neck that were greatly distended. Dr. Jenner said that during inspiration there was a falling-in of the lung at that part; but he (Dr. Sibson) contended that that arose from the opposite cause to that alleged—namely, the blood being prevented from entering into the right side of the heart. The upper part of the chest was not, as stated, that which least supported the lung during expiration, it being, as he was able to prove, the most supported part in all animals that breathed with the diaphragm. In all such animals, with the exception of the ant-eater (in which the first rib resembled that of birds and reptiles), the upper rib was the strongest of all. In animals that did not breathe with the diaphragm, the upper ribs were not included in the sternal set, those commencing lower down. But in animals that breathed with the diaphragm, the lung was drawn forcibly down, and were there not an enormous counterpoise, it would be drawn inwards at each inspiration, so that there would be a large chasm in the upper part of the chest and the lower part of the neck, instead of the lung being expanded equally in every direction. The upper rib was the strongest; it had muscles of great power acting immediately upon it, inclosing the lung in a muscular case of great firmness, which, during inspiration, while it drew up the ribs (particularly the first and second), also drew up the upper part of the lung; and there was a small muscle acting upon the portion of cellular tissue outside the pleura, to draw up the apex. The muscles yielded but little during expiration. Putting them aside, however, there was but a small portion of the apex above the anterior part of the first rib, the more important part of it lying upon the first, second, and third ribs. That was a part eminently the subject of emphysema, and it would be found, by post-mortem examination of cases of emphysema, that there were none in which so small a portion of the lung was superior to the first rib; while in none was there so large a portion as in cases of phthisis. He was convinced that if Dr. Jenner would examine his position with increased care, he would modify the views he had expressed. The idea of the lung being variously supported during expiration was opposed to the commonest law of physics, that of the pressure of fluids being equal in every direction. It was true in reference to the ribs, cartilages, diaphragm, liver, &c., that some of them were more yielding than others; but they were all less yielding than any part of the texture of the lung itself. Dr. Jenner had rightly said that the lowest part of the lung in front was the part that fell in during inspiration in emphysema; but there was a portion at the upper part of the sternum (the whole of the two upper thirds) more emphysematous than any other, and that was the portion more expanded during inspiration in emphysema, and the most pressed out during expiration. Respiration there was only about $\frac{1}{100}$th of an inch, whereas in many cases of emphysema he had known it rise as high as $\frac{1}{20}$th. At the lower part of the sternum it fell in, and the expansion there, at all events, could not be by expiration. At the lower part the lung was exceedingly lengthened downwards in every case of emphysema, sometimes by an inch or an inch and a half. The form of the chest in emphysema was inspiratory, the shoulders and sternum being raised, the neck shortened, the head drooping, the scapula raised upwards away from the chest, the walls of which universally expanded, except over the lower regions; and surely it was not rational to conclude, since the form was inspiratory, that the cause of emphysema was expiratory. He thought, however, that there was an expiratory cause, when the emphysema assumed a certain form familiar to pathologists, that of a peculiar sacculated projection. In those cases the cells were greatly swollen, in consequence of the impossibility of the escape of the air from the bronchial tubes during expiration. During inspiration the tubes were being widened, and the facility of expiration was gradually diminished, so that a large part of the air inspired could not get out. But he maintained that the usual cause was inspiratory. In one or two post-mortem examinations, he thought he had traced another cause—namely, the confinement of fluid within certain lobules, thus enlarging, and sometimes bursting them. Such cases, however, were very exceptional. He did not think that the inspiratory theory was at all affected by the paper of Dr. Jenner.

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* Dr. Gairdner's Monthly Journal of Medical Science, vol. xiii. p. 18.

Dr. Edward Smith remarked, that the author's theory was not so opposed to that ordinarily received as the antithesis of the terms inspiratory and expiratory, as the author's denunciation of the respiratory theory seemed to imply; since on both theories alike the disease is produced by the forcible entrance of air into the cells. The disease is not produced by or during expiration, since it is essential, on the author's theory, that the glottis should be closed, and hence, when expiration is permitted, the production of the disease cannot occur. The occurrence of the disease with cough (that is, under the conditions mentioned by the author) has long been admitted by the advocates of the inspiratory theory; and since the essential act in the induction of the disease is the introduction of air into the cells, he would regard the author's theory simply as a modification of the inspiratory, notwithstanding that the power employed is that which, with the glottis open, would be expiratory. The author's theory is one of compression and dislocation of the contained air, and not of expiration. In cases of chronic bronchitis, he believed the disease to be often directly induced by inspiration. In that disease there is obstruction to the entrance of the air from the retention of an excessive volume of the residual and reserve air, whereby the cells remain at all times too much distended; and the dyspnœa is mainly owing to the fact, that a sufficient quantity of tidal air cannot gain access to the air-cells, whilst the residual and reserve air becomes effete by reason of insufficient change. Hence the efforts to inspire are unusually forcible and sudden, whilst the movements of respiration are unusually small, so that a greater pressure must be exerted upon the column of air in the air-cells than is found in health; and thus at the points the least supported, or enfeebled by disease, and also at those the most in the line of the inspiratory power, the cells will dilate.

Dr. **Snow** said that he had paid some attention to the subject of emphysema about fifteen years ago, and at that time he advocated the opinion that this lesion could only be produced during inspiration. At that time, however, he took it for granted that the chest was a cavity equally supported at all parts, when the pressure would of course be equal in all directions, and distension of the air-cells during expiration would be impossible. The circumstance pointed out by Dr. Jenner, that the resistance was less above the clavicles than at other parts, altered the question a little, but he still considered that the air-cells of no part of the lungs could be distended during expiration. In order that the air-cells of the upper part of the lungs should be distended during expiration, it would be necessary that the air should be entering the bronchial tubes at this part, whilst it was leaving the bronchial tubes of the other parts of the lungs, but he did not think that the structure of the bronchi would allow of air being pressed in this manner; he thought they would sooner collapse by the pressure.

Dr. **West** considered that previous theories as to the causes of emphysema needed some such modification as that suggested by Dr. Jenner, to account for the frequent occurrence of that condition in children in cases of hooping-cough and croup independent of bronchitis. He did not agree with Dr. Jenner respecting the occurrence of emphysema in cases of pneumonia, as he had observed it in many cases, especially in early life, and that to an extent proportionate to the rapidity with which the pneumonia had set in.

Dr. **Graily Hewitt** had had frequent opportunities of observing the occurrence of vesicular emphysema in infants and young children dying from bronchitis or from diseases in which bronchitis was an essential ingredient. He had not observed, however, that the emphysema was limited to the upper lobes of the lungs or to the margins of lobes. Patches of emphysema were usually scattered here and there, and almost always in close apposition with portions of the lung which had become collapsed or apneumatic. This was, according to his experience, so constantly the case, that finding certain parts in a state of apneumatosis, it might with confidence be predicted that emphysematous portions would be found near them. He therefore considered that in these cases the emphysema was a direct consequence of the other condition.

Dr. **Barclay** believed that both parties were in error with respect to the physical explanation. One contended that there could not be any pressure upon the interior of the vesicles during inspiration, and the other, that there could not be pressure upon the exterior of the lungs during expiration. If at any time the lung structure was not sufficiently expanded so as to fill the chest when the chest was expanded by inspiration, an unequal pressure would be exerted by the atmosphere upon different parts, and the weakest portion of the lung would give way, and vesicular emphysema be found. Dr. Sibson was in error in saying that the pressure during expiration was equally exerted by the ribs and soft structures. When the pressure was produced by the rib, the intermediate soft structure gave way and bulged, and there was nothing to prove it impossible that the lung should give way in parts where the chest was weakest, vesicular emphysema being then formed by the forcible compression of the lung structure during an expiratory effort with a closed glottis.

Dr. **Sibson**, in explanation, had only stated that whilst the different parts of the chest yielded in different degrees, they were none of them so yielding as the lungs themselves. He agreed with the position laid down by Dr. Barclay.

Dr. **Black** could not agree with the views advanced by Dr. Jenner. He stated that the apices of the lungs were the parts most liable to distension, and argued that that was attributable to the comparative immobility of the part; but he (Dr. Black) could not see how the inference drawn by Dr. Jenner could be maintained. If the lungs were spherical, they would expand equally in all directions, but as the apices were in the most contracted part, of course there would be the least expansion there, which was merely the exact harmony of the part to the substance that had to be expanded.

Mr. J. **Hutchinson** suggested that both the inspiratory and expiratory theories might be true, and that Dr. Jenner's theory could be more easily understood, and more likely to be received, if, instead of speaking of irregular support, he had spoken of irregular compression. With regard to the equal pressure of fluids in all directions, that law only applied to fluids at rest.

Mr. **Brook** remarked that the only disturbance of that law would be the momentum of the air, which was very slight, and could not be increased by any contrivance that might be attempted. Suppose an inflated lung to be enclosed in an India-rubber bottle, and subjected to pressure, that part would give way where the bottle was weakest, and would, he apprehended, become emphysematous.

Dr. **Jenner**, in reply, did not exclude the inspiratory theory, which, he had no doubt, was applicable in certain cases, especially to those mentioned by Dr. Hewitt.

Dr. **Peacock** said that he believed Dr. Jenner's views to be applicable to the explanation of the mode of origin of some forms of emphysema of the lungs, but that there were others which were more readily explained on the inspiratory theory. He observed that Dr. Jenner regard the acute emphysema of infants as certainly produced by violent expiratory efforts. If, however, Dr. Jenner meant his views to be extended to the acute emphysema of adults, he (Dr. Peacock) could not coincide in that opinion. The acute emphysema which occurs in acute capillary bronchitis he regarded as much more readily explained on the inspiratory theory. In that disease, one of the peculiar features is the abortive character of the cough, whereas the existence of collapse of the lungs in such cases readily explained the presence of emphysema.

Dr. **Jenner** replied that acute emphysema in children was not peculiar to cases of bronchitis. He had seen cases of acute emphysema, in which there was little or no collapse.

On Displacement of the Scapula upwards through Paralysis of the Serratus Magnus Muscle, and consequent Retraction of the Rhomboidic, Levator Anguli Scapulæ, and Trapezius Muscles. By Bernard E. Brodhurst, Assistant-Surgeon to the Royal Orthopædic Hospital.

The author stated this to be a very rare affection. The patient was sixteen years of age, tall and robust. The right shoulder was two inches higher than the left, and the inferior angle of the right scapula was five inches higher than that of the left side. The postero-superior angle of the scapula projected immediately beneath the skin on the anterior surface of the neck, one inch and a half above the clavicle. Immediately above this point the trapezius formed a thick, prominent cushion. The serratus magnus muscle of the right side could not be distinguished even during forced inspiration. The motions of the right arm were limited—that is to say, the elbow could be raised only seven inches beyond a right line with the trunk, and violent movements of this arm occasioned pain, in consequence of the projection of the scapula. Paralysis of the serratus magnus muscle had been produced when the patient was two years old, by her being caught by the arm when falling from the arms of a relative. Weakness of the limb was obvious soon after the accident, and in the course of some months the shoulder was observed to be unduly prominent. A weight of five pounds was fastened upon the shoulder, and this was subsequently increased to eight pounds, which was worn during several years. The rhomboid muscles, the lavator anguli scapulæ, and portions of the trapezius muscles were tensely retracted. These muscles were divided subcutaneously, and after the fracture had healed, pressure was made above the spine of the scapula, to endeavour to depress that bone. This was so far successful that the normal position of the scapula was in great measure regained, the motions of the shoulder were rendered more free, and pain on motion was entirely removed.

Mr. **Lonsdale** said that he did not agree with the author as to the rarity of paralysis of the serratus magnus muscle. He had previously seen cases of the kind, and others were quoted by Dr. Laycock in his work on the "Nervous Diseases of Women." He believed the elevated position of the scapula depended a good deal on curvature of the ribs at the upper part of the thorax, the existence of which was indicated by the cast, which showed a convexity on one side, and a concavity on the other, with a marked spinal curvature existing also. The success of the operation he would not dispute, not having seen the patient.

Five Cases of Tracheotomy in Croup, with Remarks on certain Points connected with the Operation. By Henry Wm. Fuller, M.D. Cantar. F.R.C.P., Assistant Physician to St. George's Hospital.

The author began by narrating the particulars of five cases of inflammatory croup, for the relief of which tracheotomy was performed in St. George's Hospital. In each instance the operation was deferred until the last stage of the disease, when every remedy had failed, and death was imminent. In two of the cases the operation was successful in saving life; in three it failed of its object. Four of the patients coughed up a considerable quantity of mucus or false membrane through the artificial opening, and received immense relief from the operation; whilst the fifth was nearly moribund at the time of its performance, and expired almost immediately afterwards. Dr. Fuller remarked that the success thus obtained is highly satisfactory, and that unless these recoveries are quite exceptional, tracheotomy ought to be had recourse to when other remedies have failed. He admitted, however, that the inferences derivable from such a limited number of cases are not of themselves sufficient to determine the propriety of the operation, and he therefore proceeded to discuss the question generally, and endeavoured to bring together such facts as should lead to a decision—1st, as to whether the operation of tracheotomy is justifiable in cases of croup? 2d, if so, under what conditions, and at what stage of the complaint? 3d, whether the existence of certain symptoms or other circumstances ought not to cause us to hesitate in recommending its performance? 4th, whether any and what medical treatment is necessary after an opening has been made into the trachea? With a view to a correct appreciation of the subject, Dr. Fuller began by referring to the differences existing physiologically and pathologically between idiopathic inflammatory croup and the diphtheritic form of the disease which commonly prevails in France, and he pointed out that the objection usually urged against French statistics of tracheotomy in croup —viz., that diphtheritic cases are much more favourable for the performance of the operation than are the croup cases usually met with in this country—has no foundation in fact. He called attention to the circumstances that diphtheritis is often accompanied by glandular swellings in the neck and œdematous fulness of the throat, whereby the operation is rendered much more difficult than in inflammatory croup, and that the type of the accompanying fever is so low as often to destroy life, quite independently of any affection of the air passages. He then proceeded to show, by reference to 483 cases in which tracheotomy has been performed for the relief of croup in France, that the operation has proved eminently successful in the hands of French surgeons; and he reminded the Society that, inasmuch as the condition of the throat externally, and the nature of the accompanying fever in diphtheritis, are by no means favourable to the operation, the success which has attended it can be explained away only on the supposition, often put forward by English writers, that in France the disease seldom extends into the trachea and bronchi, and is rarely accompanied by bronchitis or pneumonia. The fallacy of this superstition he then proceeded to demonstrate by reference to the writings of French authors, and to the recorded results of the post-mortem investigation of 311 fatal cases of croup in France, and he showed that in regard to its pathological effects, diphtheritis, when accompanied with croupal symptoms, does not, as compared with inflammatory croup, present any greater prospect of success for the operation than it does in the character of its accompanying fever, or the condition of the throat externally. Having thus established the success of the operation in the hands of French surgeons, and the absence of any special cause for that success, Dr. Fuller proceeded to inquire into the circumstances which have led to the disrepute of the operation in England. These he traced to theoretical objections founded on the pathological results of the disease, to the almost unanimous and unqualified condemnation of the operation pronounced by successive English writers, and to the ill success which had attended the operation in the few cases in which it had been practised prior to the publication of their respective works. He insisted, however, that theoretical objections are of little value as compared with the results of practical experience, and he therefore appealed to that source for information on the subject. He showed, by reference to statistics derived from the Hôpital des Enfans Malades at Paris, that whereas out of the first 100 cases operated on at that institution, one only recovered, a more extended experience in the mode of carrying out the operation, in the precautions requisite to ensure success, and in the carrying out of the necessary after-treatment, has led, since 1850, to the saving of 47 out of 215 cases; or, in other words, to the rescuing from death of nearly one out of every four patients. He argued thence against those persons in this country who condemned the operation simply because it is opposed to their preconceived notions, or has proved unsuccessful in the few instances of which they are personally cognizant. Further, he showed that even in Great Britain the recorded results of the operation afforded a fair amount of success. Twenty-two cases only have been recorded in England, and in no less than eight of these life was saved by the operation; and although, doubtless, many unsuccessful cases have occurred which have not been placed on record, still Dr. Fuller argued that if life can be saved by operative interference, even in a small proportion of instances, the chance afforded by the operation ought not to be withheld where all other means have failed, except under some peculiar circumstances.

Dr. Fuller next proceeded to dispute the propriety of having recourse to tracheotomy at an early stage of the disease. He showed that patients, in the second stage of croup, will sometimes recover under proper medical treatment, even when those symptoms appear to be desperate; and, on the other hand, that the theoretical objections commonly urged against deferring the performance of tracheotomy until the third stage of the disease, have no foundation in fact. In proof of this, he appealed to the results of the five cases which have fallen under his own observation, at St. George's Hospital, as also of many of the other cases on record; and, further, to the corroborative evidence afforded by the recent change of opinion evinced by MM. Trousseau, Bretonneau, and others, who formerly were most zealous in their advocacy of an early performance of the operation, and who now defer it until a much later stage. Dr. Fuller condemned the indiscriminate performance of tracheotomy in croup. So much danger and difficulty attends the operation, even in favourable cases, that he considers it almost necessarily fatal if the patient is of very tender age, or has been out of health prior to his attack of croup; if his illness has been preceded by pneumonia or severe bronchitis; if he is suffering from any exanthematous or other disorder; and, further, if he is in such a position of life that his parents are unable to secure for him proper skilled attendance night and day. He spoke of the gradual sinking sometimes observed in fatal cases, many hours after the operation, whilst all the symptoms are progressing favourably, as analogous to the sinking which occasionally takes place, under similar circumstances, in persons who have been partially asphyxiated; and he attributed it in part to pulmonary collapse, and in part to nervous exhaustion consequent on the long-continued struggles for breath. He referred to the use of tracheal tubes of too small a calibre, or of improper construction, as one great cause of the failure of the operation; and, as another, to the neglect of proper after-treatment, or to the administration of improper remedies. He pointed out that, in almost all the fatal cases on record, wine and brandy had formed the chief, if not the sole, medicaments; whereas, in almost all the successful cases, calomel, antimony, and the measures which are considered useful before the operation, were steadily persevered in afterwards; and he called attention to the fact, that the depression which accompanies the last stage of the disease, in which alone he recommends the operation, is the depression of asphyxia, which is to be relieved by the free admission of air, and not by the administration of stimulants. He recommended that the trachea tubes be made somewhat larger, shorter, and less curved than those in common use; that the outer canula be shorter than the inner one, and that both be of the same diameter from one end to the other, but that the outer one, instead of being made of one piece as at present, should be divided longitudinally into two blades, flattened towards their inferior extremity, so as to come into close apposition, and to admit of easy introduction into the trachea. These blades should be made to open like the blades of a dilating bivalve speculum, so as to admit, when fully expanded, an inner tube of uniform diameter throughout. This arrangement could not only conduce to keeping the inner tube clear of mucus, but would render serious obstruction to the respiration well nigh impossible, inasmuch as if the inner tube were to be clogged in any way, and the extremity of the outer canula were to be also choked with mucus, the chink existing between its expanded blades would provide a free passage of air immediately on the withdrawal of the inner tube.

Dr. **West** wished to set Mr. Fuller right upon one point in his paper, from which it would appear that he (Dr. West) was altogether opposed to the operation of tracheotomy in cases of croup. Now in his lectures he had advanced certain facts to show why the operation was more successful in France than in this country, and had offered some explanation why the results were so different. He had said that the objections to the operation advanced by Dr. Cheyne and others were not satisfactory, and had further endeavoured to throw what little influence he possessed in favour of the operation. He had further said, that amongst other causes of the non-success of the proceeding was the neglect of precautionary measures, and the inattention to the administration of medicine, and to the preservation of an equable temperature both before and after the operation. Still his own experience was not favourable to the proceeding. Ten cases had been operated on under his immediate superintendence, and in no instance was the operation followed by a good result. He could not remember exactly the number of cases in which the operation had been performed in the Hospital for Sick Children, but in all these cases it had been resorted to sufficiently early—that was before the patient was in such a condition that death was imminent from the disease. The operation was also skilfully performed. The patients were placed in a favourable position in regard to temperature, had the advantages of the attendance of a special nurse, and every attention was paid to them, with a view to ensure a favourable result. Every case, however, proved fatal. He mentioned these facts to show that his remarks on the operation has been made from actual observation. With regard to the size of the canula to be employed, similar remarks to those made in the paper had been also advanced by M. Trousseau. He had instanced a person breathing through a quill placed in the mouth. At first the breathing was easy, but the supply of air soon became inadequate, and it was necessary to throw the quill away, and to take in a sufficiency of air to support respiration. M. Trousseau had insisted upon the necessity of a large canula, and with this opinion he (Dr. West) concurred. He might also mention another fact which had not been alluded to in the paper before them, and that was that the last publication of M. Trousseau indicated that his opinions had undergone a change in reference to this operation. He would not now resort to the proceeding so frequently nor so early, but would limit it to those cases which Dr. Fuller had indicated as proper for the operation—namely, in the latter stages, and in this opinion he (Dr. West) agreed. He still thought that cases of diphtheritic inflammation extending to the larynx were more favourable to the operation than cases of true croup, for in the first the mischief travelled downwards, whilst in croup there were usually complications, such as bronchitis, &c. In most cases of croup the symptoms were ushered in with catarrh and fever, and the laryngeal symptoms went on *pari passu* with these. Of thirty cases of croup which he had examined after death, in by far the larger number of cases the disease was not limited to the trachea or larynx, but the larger, and even smaller bronchi had become affected, and in some instances the substance of the lung itself was diseased. These symptoms he believed went on in spite of the temporary relief afforded by tracheotomy. Notwithstanding all these drawbacks to the operation, and the general non-success of its performance in England, he should still recommend it in a large proportion of such cases as those indicated in the paper of Dr. Fuller.

Dr. **Webster** remarked, that in all the boys mentioned by Dr. Fuller, and on whom tracheotomy had been performed, the operation proved unsuccessful; whereas, the two cases which recovered were girls, aged five years and upwards. This coincided with the ordinary termination of croup, which was most usually fatal in patients from two to three years of age and under; besides being oftener followed by death in male than female infants. Dr. Webster believed these circumstances influenced considerably the success of tracheotomy in croup. Indeed, various fatal cases recorded in the paper were of that category; as, for instance, the one whose age was about eighteen months, operated upon by Mr. Arnott. The author had quoted also an expression implying that croup was not very common in Paris. This he thought erroneous. The disease prevailed very frequently in that capital, the mortality thereby being double the ratio of London, although recently it had been much more fatal here than ten years ago. In France, tracheotomy was oftener successful than in England. This Dr. Webster considered partly arose in consequence of the operation being generally performed at an earlier stage, as also he could not help believing, from some of the cases being instances of diphtherite. When at Tours several years since, he had heard read, in a meeting of medical men there, an important paper, by M. Bretonneau, strongly advocating tracheotomy, and speaking of its marked success in croup; but, since then, that celebrated practitioner, it was said, had somewhat modified his opinions. Still there was no question that opening the windpipe in tracheal diseases was more commonly employed by our scientific French neighbours than in this country, and with better results. A friend of his (Dr. Webster's) had performed tracheotomy eight times in young persons, but all ended unfavourably. Nevertheless, when every other remedy failed, a surgeon would be justified in having recourse to it, particularly where the patient was beyond the fourth or fifth year, seeing that recovery would more likely ensue at that period of life than during early infancy.

Dr. Fuller, in reply, after thanking the Society for listening to his unusually long paper, was glad to know that he had mistaken the opinions of Dr. West, and that these opinions substantially coincided with his own. He still thought, however, that the opinions which had been expressed by eminent authorities against the operation had made practitioners hesitate to resort to it. These opinions had influenced himself, and in the first case, as related in the paper, he was induced to resort to the operation, upon the remark of a bystander that it was the only chance for the patient, and that he must inevitably die unless this proceeding were resorted to. He (Dr. Fuller) agreed with Dr. Webster as to the difficulty and danger of performing the operation on very young children—difficulties which arose from the fits of dyspnœa which came on, and from the necessarily small size of the canula which must be used. The great number of successful cases in England were performed on children from four to seven years of age.

Some Observations on the Anatomy and Pathology of the Adult Prostate, founded upon Fifty Preparations of the Organ, dissected by the Author, and accompanying the Paper. By Henry Thompson, F.R.C.S., M.B. Lond., Surgeon to the Marylebone Infirmary, Assistant-Surgeon to University College Hospital.

The observations are based upon upwards of sixty dissections, fifty of which were preserved and exhibited, the latter having been examined on a uniform plan.

Mode of examination.—The organ has been carefully dissected from adjacent parts. At the neck of the bladder, the muscular and other fibrous structures which surround the vesical orifice of the urethra were pared away pretty closely; some portions may have been left, as it does not appear possible to mark any absolute limit between prostate and bladder; anteriorly, although the same condition exists, it is less difficult to determine, approximatively, a boundary line. It was then measured, in three directions, as follows: from base to apex; in the extreme transverse direction; and in the extreme recto-pubic direction. Next, it was weighed. After this, the urethra was laid open, the existence of "concretions" sought in the canal, and afterwards in various parts of the prostatic substance. In most specimens, free sections were made with Valentin's knife, and a series of microscopical observations pursued in normal and abnormal conditions of the organ, illustrated by about 100 specimens, mounted on slides, in cells with preservative fluid. The greater part of these prostates were taken from the bodies of elderly persons, as they consecutively appeared in the dead-house of a large institution, containing a due proportion of healthy and diseased lives, and no kind of selection was made. The particulars of age, weight, and measurement, are arranged in tables exhibited. The observations made are presented under the following heads:—

I. *On the frequency with which enlargement appears in advanced age.*—The opinion has long been current that the enlargement of the prostate is one of the changes natural to old age. The specimens in question show the incorrectness of this view. Of the 50 specimens, 43 were taken from individuals of fifty years old and upwards. Of these 43, two were very small, probably atrophied, leaving 41. Of these 41, 14 exhibited enlargement, or a tendency thereto, manifested by the presence of tumour, more or less developed. Of these 14, 9 exhibited it in a very slight degree; in the remaining 5 enlargement was considerable, and gave rise to symptoms during life. Only one died of the affection.

Results, per cent.—An appreciable enlargement existed at the rate of 32 per cent.; notable enlargement, causing symptoms during life, at that of 12 per cent.

Of the 41 cases above fifty years of age, 29 were therefore unaffected in the slightest degree, and amongst them were the oldest individuals of the series—one at ninety, one at eighty-five, and two at seventy-nine years. It was then held to be established, that enlargement of the prostate, so far from being a change natural to old age, was an exceptional condition.

II. *The size and weight of the adult prostate.*—From the 50 cases of all adult ages, 14 being deducted as enlarged, and 3 as unnaturally small, 33 specimens remained healthy; the average weight of these was four drachms 38 grains; there was very little deviation, most of them ranging between 4 and 5 drachms.

Measurements.—Those given by authors generally were corroborated. The prevailing measurements were—from base to apex, 1¼ to 1½ inch; greatest transverse diameter, about 1¾ inch; greatest thickness, ⅝ to ⅞ inch; measurement from the centre of the urethra, outwards and downwards to the periphery of the organ, the line of section adopted in lithotomy, varied from ¾ to ⅞ inch.

III. *On the nature of a part commonly called "the third lobe."*—The history of this term and its employment to indicate a distinct portion of the organ is discussed at some length. An examination of the preparations exhibited does not warrant its use. There is no portion marked out with sufficient distinctness to entitle it to such an appellation. Its existence appeared to have been the subject of discussion during some years in the course of the last century, long before the time of Sir Everard Home, the result of which was then a decided denial of its existence; Morgagni especially, after repeated examinations, strongly opposing its claim to be considered a distinct part of the healthy organ. It was proposed, very much in conformity with the practice of Cruveilhier and other French anatomists, to term the stratum of prostatic substance, which united the two lateral lobes behind and below the urethra, "the posterior median portion," as more correctly indicating the part referred to, and at all events as not involving assent to the disputable theory which assigned to it an independent character.

IV. *On the existence of distinct tumours in the prostate.*—The existence of solid tumours of different kinds is by no means rare in the prostate. They were pointed out by Sir E. Home, and by him supposed to be of the nature of apoplectic clots. Subsequently they have been regarded as fibrous tumours, and more lately it has been shown that some possess a structure approaching very nearly to that of the secreting tissue contained in the prostatic substance around. It is shown that enlargement of the prostate is very frequently associated with the development, more or less marked, of such growths in some one of three forms; in short, that the production of defined tumour is more frequently than otherwise the essential element of the pathological condition known as hypertrophy of the prostate. Of 14 enlarged prostates in the series, 6 exhibited numerous fibrous tumours in the substance of the lateral lobes; the others show polypoid enlargements, single, binary, or multiple, springing from the "posterior median portion." The varieties may be briefly noticed as follows:—

1. A simple fibrous tumour, small, nearly isolated, made up of closely-packed organic muscular fibres, with areolar tissue, intimately resembling those found imbedded in the walls of the uterus.

2. A tumour composed of the same elements as the preceding, but containing, in addition, some of the glandular substance of the prostate, more or less imperfectly developed. This also may be imbedded, with or without a cyst, seeming sometimes to partake more of the character of a local enlargement, limited to a small portion or lobule of the prostate tissue, and only partially isolated. Although separating this class from the previous one for facility of reference, it is more than probable that the two nearly merge into each other at their adjacent limits, the latter approximating to the former by insensible gradations; so that some tumours which appear to be purely fibrous at first may be found to exhibit slight traces, in parts of their structure, of the glandular element. In *all*, however, the basis is *the organic muscular fibre.*

3. A tumour composed entirely of the ordinary structures of the prostate fully developed, and enjoying activity of function in common with the rest of the organ. It assumes a pyriform shape even in its earliest stage, and springs from the posterior median portion. It may vary in size from that of a pea to that of a middle-sized pear. The analogies between these and the polypoid tumours of the uterus are considerable. Pointed out by Velpeau and others, modern researches seem to indicate them more plainly.

1. There is a ground of analogy derived from the two organs prostate and uterus being undoubtedly morphological equivalents in the two sexes, the analogue of the uterus and vagina combined being found in the prostatic vesicle or utricle of man. Numerous authorities are referred to in support of this view.

2. A stronger ground may be found in the fact, that the prostate and uterus are organs whose bulk is constituted by the same tissue—viz., the organic muscular fibre. No other organ in the body besides these two is similarly constructed by thick masses of this tissue; elsewhere, it is distributed in very thin layers.

3. Both organs exhibit growths identical both in external and histological characters. Isolated tumours imbedded in the substance of the organ, and polypoid outgrowths intimately connected with its structure, are seen in both. The occurrence in some prostatic tumours, of a very small proportion of partially-developed gland tissue intermingled with the muscular basis, should be regarded rather as an accident of situation than as indicating any material difference between those and the purely muscular tumours.

4. The two organs are subject to considerable hypertrophic enlargement, mainly consisting of their constituent fibrous and muscular elements, and in both this may be associated with some tumour-formation, or may exist independently of it; may, in the latter case, be local or general, affecting the whole or certain parts of the organ; and when local, affecting particular spots more commonly than others.

5. The two organs are liable to these changes after the prime of life has passed. Bayle, quoted by Rokitansky, and confirmed by Dr. Robert Lee, says that 20 per cent. of women, after 35 years, have fibrous tumours of some size in the uterus. These preparations show prostatic tumours in 30 per cent. of males after 50.

The President remarked that he had been struck during the reading of the paper with the extent of the additions which had of late years been made to the anatomy of the prostate, whilst so little had been done to increase our knowledge of the pathology of that organ. He inquired if the author was acquainted with the observations of Dr. Beith respecting enlargement of the prostate in old persons, that gentleman not having found it of frequent occurrence in old Greenwich pensioners.

In answer to a question from Mr. Solly, Mr. Thompson said that of forty-one specimens taken from persons above fifty years of age, fourteen were enlarged, six with isolated tumours, the rest being cases of simple hypertrophy. With respect to Dr. Beith's remarks, he believed that gentlemen had made no numerical statement respecting the frequency of enlargement of the prostate in old persons. He had exhibited some specimens at early meetings of the Pathological Society, but had made no numerical statement.

MEDICAL SOCIETY OF LONDON.

PUERPERAL CONVULSIONS.

Mr. Peter Marshall detailed some particulars of a case of puerperal convulsions, occurring in a young woman aged 24, with her first child. The case was peculiar, from the fact of spontaneous evolution having occurred during the convulsions; the presentation having at first been natural, and the feet afterwards presenting. She was treated by bleeding, salines, and tartar emetic, and did well. There was albumen in the urine.

Some conversation took place with respect to the administration of chloroform for the relief of puerperal convulsions. It was condemned by some, and lauded by others.

Dr. Snow read a paper

ON THE VAPOUR OF AMYLENE.

He said that amylene was first discovered and described in 1844, by M. Balard, Professor of Chemistry at the Faculty of Sciences of Paris. It was made by distilling fusel oil with chloride of zinc. M. Auguste Cahours had given the name of amylene five years previously to a product which was isomeric with it, and was made nearly in the same manner, but was now termed paramylene. Amylene itself was a colourless and very mobile liquid, of extremely low specific gravity; M. Balard had not stated the specific gravity; but he (Dr. Snow) had found it to be 0·659 at 56°. It was very volatile, boiling at 102° Fahr., and the specific gravity of its vapour was 2·45. It was a compound of ten atoms carbon and ten hydrogen, and it bore the same relation to fusel oil, or amylic alcohol, that olefiant gas, or ethylene, bore to common alcohol. It burnt with a brilliant white flame. It was soluble in alcohol and ether in all proportions, but was very sparingly soluble in water. As far as he could ascertain, it required rather more than ten thousand parts of water for its solution. It had an odour somewhat resembling naphtha; some persons thought the odour agreeable, and some thought it unpleasant; the odour was not so strong or permanent as that of sulphuric ether, and it did not remain long in the patient's breath. The vapour of amylene was much less pungent than those of ether and chloroform, and, therefore, it was much easier to breathe, and had not caused coughing, except a little in two patients with catarrh. He was not aware of the existence of amylene till a few months ago, or he should have tried it sooner; for, judging from experiments which he had made on analogous substances, there could be no doubt of its causing insensibility when inhaled; but he could not tell, without trial, whether it might not be too powerful, or otherwise objectionable in its action. He made several experiments on small animals with amylene, and after inhaling small quantities of it himself, he administered it in King's College Hospital, commencing with cases of tooth-drawing, on Nov. 10, 1856, and he had more recently given it in the larger surgical operations. He found, from experiments on animals, that to induce a very complete state of coma, which he called the fourth degree of narcotism, it required that a fifth part as much amylene should be absorbed as the blood was capable of dissolving. To cause the second degree, or that state in which consciousness and volition were disordered, but not abolished, it required a tenth part as much as the blood would dissolve; whilst to induce the third degree of narcotism, which was as far as he had found it necessary to carry the effect in the human subject, it required an intermediate quantity, or about fifteen per cent. In the case of chloroform, ether, and several allied substances, the proportion which required to be absorbed was far less, being only, for the fourth degree of narcotism, about one-twenty-eighth part as much as the blood was capable of dissolving. Benzin, which was a simple carbo-hydrogen, like amylene, was intermediate between this and the above substances in the relative amount of it which was absorbed, one-seventeenth part as much as the blood would dissolve being required to induce the fourth degree of narcotism. Whilst the relative amount of amylene absorbed was high, the actual amount was extremely small, owing to its very sparing solubility in the serum of the blood and other watery fluids. He calculated that in the adult human subject the amount of amylene circulating in the system, in the third degree of narcotism, was less than three minims. Viewed in the light of the small quantity which required to be absorbed to cause insensibility, amylene was a very powerful agent, but when considered in relation to the quantity which was consumed during inhalation to the usual way, it was very far from being powerful. This arose from the great tension and the small solubility of the vapour, in consequence of which it was, with the exception of a small fraction, expelled from the lungs again without being absorbed. It took from three to four fluid drachms of amylene to cause insensibility in the adult, whilst less than a drachm of chloroform was usually sufficient. The quantity of sulphuric ether required to cause insensibility in the adult was eight to ten fluid drachms, one half of which was absorbed into the blood. In a protracted operation the quantity of amylene used was greater than that of sulphuric ether, as the small quantity of the former which was absorbed was quickly exhaled again from the lungs, and required to be constantly replaced, whilst the large amount of sulphuric ether, when once absorbed, took a much longer time to evaporate in the breath. It was necessary for the patient to breathe air containing not less than fifteen per cent. of vapour of amylene, in order to reach the third degree of narcotism, or that condition in which consciousness and voluntary motion are entirely suspended, the pupils being usually contracted and turned upwards, but the muscular system not necessarily relaxed. The patient must inhale the amylene at the rate of rather more than a fluid drachm a minute; in this way he becomes insensible in three minutes or rather less; but if the vapour was not inhaled in a sufficient volume, he would not become insensible by continuing the inhalation, for however long a time; the quantity of vapour must be increased, or it would not succeed. He had administered the amylene in his ordinary chloroform inhaler, which he had, however, got somewhat enlarged.

In the use of amylene, absence of pain had been obtained with less profound coma than usually accompanied the employment of chloroform and ether. There were some cases, indeed, in which the minor parts of an operation, under these latter agents, might be performed without pain, whilst the patient was in a semi-conscious state, or even altogether conscious, but they formed the exception, whilst in the use of amylene, the patient had very often been partially conscious during the operation. In a case that day in which Mr. Fergusson removed a large melanotic tumour from the groin, the man repeated some verses very accurately whilst the arteries were tied, and was awake and talking to the bystanders whilst the wound was being stitched up, but felt nothing of it. The pulse was increased in frequency and force during the inhalation of amylene to a greater extent than happened with chloroform; the respiration was also very often accelerated, about as often as in the inhalation of ether, and more frequently than with chloroform. There had not been much increase of saliva from the use of amylene, and he (Dr. Snow) had not yet met with the profuse flow of saliva which was often troublesome in the employment of chloroform and ether. There had been no sickness in any of the twenty-one operations in which he had exhibited the amylene, nor any of the depression which so often preceded and accompanied the sickness from chloroform and ether; and there had been hardly any struggling or rigidity in any of the patients, although several of them being robust men, a good deal of both might have been expected before incomplete insensibility, if chloroform had been the agent employed. He was of opinion that amylene would be perfectly safe with careful management. Sulphuric ether seemed to be perfectly safe in whatever way it was used; although it had been blamed for causing death, no fatal accident seemed to have been really occasioned by it. This arose from the circumstance that the dose of ether occupied so much space in the form of vapour, that it could not enter the system except by degrees, and its effects were necessarily produced gradually. In regard to chloroform, however, even a fatal dose occupied but a very small space in the form of vapour, and unless great care were taken to have it largely diluted with air, it might act with dangerous rapidity, and the point of safety might easily be overstepped. The quantity of amylene which required to be inhaled, occupied in the form of vapour, a volume intermediate between that of the vapour of chloroform and that of ether, and in all the ordinary methods of inhalation it must become mixed with a large portion of air. The relative advantages of amylene might be summed up as follows:—In regard to its odour, it was more objectionable than chloroform, but much less so than sulphuric ether. In the amount which sufficed to induce insensibility, it was also intermediate between these two agents. In regard to its pungency, it had a great advantage over both ether and chloroform, being much less pungent than either of them; on this account the patient could always begin to inhale the amylene of full strength within half a minute, and the operation might generally be commenced within three minutes. It had an advantage in preventing pain with a less deep stupor than was occasioned by the other agents, and in the ready waking and recovery of the patient, it had an advantage over chloroform, and a still greater advantage over ether. The almost entire absence of struggling and rigidity in the use of amylene is another advantage it possesses; and the greatest advantage of all, if it should continue to be met with, is the absence of sickness from its use.

Dr. Richardson had seen three cases in which amylene had been administered by Dr. Snow. He thought the stages of narcotism were not so well marked in these cases as in those in which chloroform was administered. In the first case, the man became insensible to pain in three minutes and a half; in the second case, a child, in two minutes; and in the third case, a man, in one minute fifty seconds. The man's pulse was 134, and the respirations 60, in the minute. The most remarkable feature in these cases was, the perfect quietude of the patient. Amylene in its effects was most allied to the common coal-gas. Mr. Nunneley had tried this agent, and would have persevered in its use had it not been so offensive in its odour, &c. Dr. Snow's patients had recovered from the effects of the amylene very rapidly. Neither of them appeared to be quite unconscious, though perfectly insensible to pain. He (Dr. Richardson) considered the simplicity of the compound—a hydro-carbonate—in favour of its employment. It had struck him that the extreme cold produced by the evaporation of amylene would render it a most useful means of producing local anæsthesia.

In reply to a question from Mr. Hancock,

Dr. Snow said that, as yet, he had witnessed no evil effects whatever from the agent. The patients, after tooth-drawing, had got up and walked away, and had remained quite well.

Mr. Jabez Hogg thought that the unpleasant and dry effect left upon the fauces and throat by the inhalation of amylene would be an objection to its use; it had also a disagreeable smell. He had some time since distilled a hydro-carbonate from Trinidad petroleum, and tried its effects on mice and other animals. The results were satisfactory; the animals soon recovered from the effects of the agent.

Dr. PRIESTLEY considered that, as the anæsthesia from amylene was not so complete as that from chloroform, it would not be so valuable an agent in midwifery practice as the latter. The odour, too, would offer another objection to it in this department of practice.

Some discussion afterwards took place on the occurrence of vomiting during and after the inhalation of chloroform. No certain rule could be laid down, though it usually, but not always, occurred when the effects of the chloroform were going off, and when the patient had partaken of food shortly before.

Mr. PRICE exhibited a specimen of

DISEASED KNEE-JOINT,

which had been removed on a post-mortem examination. The patient, a boy aged twelve years, had come under his care for extensive strumous disease of the glands of the neck and of the right elbow, with evidence of similar affection pervading some of the internal organs. A few months since, an abscess formed among the muscles in front of the right thigh, which continued freely to discharge. Subsequently, the right knee-joint took on a slow unhealthy inflammation, which ultimately ended in suppuration. Although the joint was much swollen, and its functions impaired, the patient seemed to suffer comparatively little pain, considering the extent of the disease as here shown. Amputation of the limb was, for many reasons, deemed inexpedient; and the limb was placed at complete rest upon a splint, and two free incisions made into the cavity of the articulation. Death, however, followed in a few days. On looking at the joint the entire surfaces of cartilages had been removed from the extremities of the bones wherever they had been exposed to the action of the pus. At the points, however, by which the surfaces had remained in contact, the cartilages were nearly intact. This condition had effectually masked the extensive destruction that had taken place. This feature was insisted upon as a fact worthy of remembrance in forming an opinion as to the extent of mischief present in similar instances of diseased joints.

Mr. CANTON mentioned the following particulars of a case of

STRANGULATED FEMORAL HERNIA IN THE MALE,

in which he had operated. The patient was fifty-three years of age, and had been for some time subject to diarrhœa and cough. Suddenly a small tumour appeared in the right groin, and he was soon attacked with vomiting. On admission into the Charing-cross Hospital, three days afterwards, Mr. Canton found a right femoral hernia, hard and tense, and the parts around much ecchymosed from prolonged employment, previously, of the taxis. The symptoms were altogether such as forbade delay in operating. The sac was opened, and its contents returned. The intestine was darkish, but with its natural polish. The patient lived nearly a week. Warm-water enemata were administered on the fifth day, but without effect. After death, the strangulation was found to have taken place at fifty-two inches distance from the cæcum. Just external to the constricted part of the gut the coats of the bowel were so deeply ulcerated, that with the slight traction used to separate it for examination they gave way, and fluid fæces escaped. Many larger and smaller ulcerated spots of old standing were found between the part strictured and the caput coli. Mr. Canton stated that he brought this case before the Society in exemplification of the mischief which would have occurred had purgatives been given after the operation, in the manner that is still advocated by many.

Dr. COLEY read a paper

ON THE PATHOLOGY AND TREATMENT OF ERYSIPELAS.

He observed that this disease usually occurs under two forms, simple and phlegmonous. There was also a chronic species, which affects only the thumb and finger, seated in the skin and cellular membrane, and never ending in suppuration nor mortification. The part affected is attacked with heat and itching, and soon becomes so enlarged as to acquire twice its natural size. There is no discoloration, and the thumb or finger presents more the appearance of induration of the cellular membrane, to which some infants are subject, than any other disease to which it can be compared. Simple and phlegmonous erysipelas are both seated in the true skin, and differ only in degree, the former being accompanied by effusion of serum beneath the epidermis and in the subjacent cellular membrane; the latter by inflammation in this and the adipose membrane, of the phlegmonous character, and terminating in the formation of pus, and often in the mortification of these membranes and of the fasciæ. In both species the disease commences with congestion in the capillary circulation, which is terminated by serous effusion in the cellular membrane in the simple species, and in the phlegmonous by cessation in the circulation of the parts affected, followed by destruction of the capillaries, and the conversion of the extravasated blood-globules into globules of pus. The constitutional symptoms in both species are always commensurate with the extent and degree of the local inflammation. Hence it is of primary importance to apply external therapeutic remedies as early as possible, which treatment will not only arrest the local, but also prevent every symptom of constitutional disease. Both species of erysipelas prevail during certain conditions of the atmosphere; for instance, during an easterly wind, and exposure to a damp or cold air, and it is probable that the custom of exposing patients in the wards of hospitals to currents of cold or damp air, by means of open windows, with the view of diluting a poisonous atmosphere and preventing infection, is a frequent cause of producing and extending the disease. In proof of this, Dr. Coley adduced the fact, that in the Civil Hospital at Louvain, which is ventilated imperceptibly by apertures in the centre of each floor, communicating with openings in the top of the building, phlegmonous erysipelas is unknown, while it is a frequent disease in all the hospitals on the Continent, in which the old fashion of admitting cold air through open windows is adopted, or where the locality, as at Ghent, Bruges, and Antwerp, is malarious. In confirmation of the influence of malaria, Dr. Coley published some cases of phlegmonous erysipelas in THE LANCET for 1838–9, which occurred in succession in the same street and on the same side of the street. In all these cases the constitutional symptoms succeeded the local inflammation, and subsided in proportion as this was relieved by free incisions. For the treatment of every species of erysipelas, Dr. Coley recommends the immediate application of nitrate of silver, either in the solid state upon the moistened surface of the inflamed part, or in a state of saturated solution in distilled water, a practice first introduced, twenty-five years ago, by Mr. Higginbottom, of Nottingham. This active treatment, by producing contraction in the capillary vessels, will obviate, or speedily remove, all constitutional symptoms, and even when postponed until typhoid fever and delirium supervene, it will afford more decided relief to these than any constitutional remedies employed without it. Mr. Higginbottom has of late employed with success the lunar caustic as a remedy for that kind of mortification of the toes which commences with a small purple blister, and which advances generally with deadly progress in spite of opium, bark, and port-wine. The vesication, the separation of the epidermis, and the progressive dark-purple congestion, and consequent cessation of the capillary circulation, and loss of vitality in the toe affected, and the serous infiltration in the cellular membrane, as the disease advances, present considerable analogy to phlegmonous erysipelas; and the frequent occurrence of mortification of the toes from trifling wounds or other injuries in old age, tends to corroborate this view of the pathology of the disease. Dr. Coley related a case of a lady, ninety years of age, on whose great toe this formidable disease had commenced. One application of the caustic effected a cure, and the patient afterwards lived to the age of ninety-two.

A somewhat similar pathological view of this species of mortification appears to have been entertained by the late Baron Dupuytren, who contended that it was dependent on inflammation, and not on ossification of the arteries, and successfully treated it by repeated small bleedings. Bleeding and nitrate of silver act alike in relieving capillary congestion and obstruction; the former by reducing the force of the arterial circulation, and the latter by exciting contraction in the torpid capillaries, and forcing their stagnant contents along the obstructed vessels. When the treatment of phlegmonous erysipelas by the nitrate of silver has been delayed till pus has been formed, and destruction of the subcutaneous membranes, &c., has commenced, Mr. C. Hutchinson's plan of making free incisions should be adopted. It must, however, be understood, that the local use of nitrate of silver is applicable in every stage and form of erysipelas. Notwithstanding it is a fact, which can be proved, that this disease is invariably local at its commencement, there are physicians and surgeons who still believe, without any evidence, that it is of constitutional origin, and ought not to be intercepted by any active local remedies in its dangerous and often fatal career. Imprudent exposure to a current of cold air, after an attack of erysipelas treated according to this doctrine, may produce meningeal inflammation, during the existence of which the primary disease may be suspended; yet in every instance of recovery after this apparent expulsion, Dr. Coley has observed the erysipelas to return as soon as the secondary disease has subsided. The same occurrence takes place with respect to strophulus confertus during the accidental presence of pneumonia or bronchitis in children. For the cure of chronic erysipelas affecting the thumb or finger, Dr. Coley recommends also the use of the nitrate; and he adduced the case of a lady, who had an immense enlargement and induration of the thumb three months, attended with itching and a burning sensation, which was cured in a few days by this remedy applied in the solid state. The same treatment is applicable to erysipelas produced by a punctured wound, the inoculation of animal poison, and the bites of insects. In all cases, when required, constitutional treatment should be attended to according to the symptoms present, which may vary in different individuals. In proof of this, a case of congestion in the heart and brain, produced by the painful development of the disease under the ancient mode of treatment, which required the adoption of Sydenham's remedy under similar circumstances, was related. The paper concluded with a report of about twenty cases of simple and phlegmonous erysipelas, treated with nitrate of silver, at the Western and Royal Pimlico Dispensaries, by Dr. Coley; and a very dangerous case, attended with stupor and other alarming cerebral symptoms, and involuntary evacuations, under the care of Mr. Brunshill whom Dr. Coley met in consultation; all of which terminated rapidly in the recovery of the patients. To these was added a singular case of phlegmonous erysipelas of the scrotum, presenting a swelling as large as a man's head, and successfully treated by long and deep incisions.

Mr. HENRY SMITH detailed the result of a post-mortem examination which he had made in the case of a lady, aged about forty, who had recently died with a

TUMOUR IN THE ABDOMEN,

from which she had suffered, more or less, for years, but which had more particularly attracted attention since the period of her marriage, between two and three years previously. Some months after this event, a very distinguished physician-accoucheur had been consulted, and he had come to the conclusion that the lady was pregnant, and would be delivered in a few weeks. Many others had since been consulted, and amongst them was another physician of large experience, who considered that the tumour might be an enlargement of the spleen, of a malignant character. On post-mortem examination, Mr. Smith found the entire abdominal cavity to be filled with an immense tumour, which displaced everything; and on careful manipulation, this tumour was found to be totally unconnected with the surrounding parts over by far the greater portion of its surface; on the left side, however, there was a small patch of adhesions between the tumour and peritoneum, which were easily broken down by the finger; and a little above this there was a connexion between the two surfaces which was so firm that it was necessary to use the knife. On turning the tumour forward, it was found to be connected with the right ovary by a narrow pedicle, and to the broad ligament of the uterus by a process of peritoneum of considerable breadth. Quite posteriorly the tumour was adherent to the greater omentum, and it was necessary to cut through this with the knife. There was very little fluid in the abdomen, and the tumour itself was a solid vascular-looking mass, not unlike the interior of a softened spleen. There were two or three small cysts fringing its border.

This case was mentioned to show the difficulty of diagnosis which might be occasioned by some of these abdominal swellings. Moreover, Mr. Smith thought that it was interesting in connexion with the question of operation, if such had been suggested; for although the tumour was entirely free from adhesions over the greater part of its circumference, and could, perhaps, have been so determined during life, yet the adhesions to the omentum alone would have seriously interfered with the safety of an operation, and of course it would be perfectly impossible to diagnose adhesions posteriorly during life.

Dr. Russell Reynolds read the following :—

ON CASES ILLUSTRATING THE DIAGNOSIS AND TREATMENT OF CERTAIN DISEASES OF THE BRAIN.

The author commenced by reading the records of six cases of cerebral disease, which bore a close general resemblance to each other, presenting epileptiform convulsions, and more or less headache, with paralysis, spasm, and diminished or perverted sensibility. A short recapitulation of the cases was then given; and this followed by an analysis of each case into groups of symptoms, classified under the three heads of altered mental, motorial, and sensorial function. In this analysis it was pointed out, that the cases differed in regard of the relative intensity, and mode of production, of the several symptoms; and the diagnostic characters of cerebral diseases were shown not to differ in kind from those employed in the discrimination of lesions in other organs. Reference was made to the possibility and frequent occurrence of diagnosis between such diseases of the chest, as bronchitis, pleurisy, pneumonia, phthisis, &c., by a consideration of the relative intensity, and mode of production, of symptoms, such as cough, dyspnœa, pain, expectoration, and fever, common to them all. A similar mode of examining the cases under consideration was shown to result in the following diagnosis :—The 1st, as a case of simple epilepsy; 2nd, as chronic meningitis; 3rd and 4th, as tumour; 5th, as chronic softening; and 6th, as Bright's disease, with urinæmia. It was then urged that the differences observed between these cases, though stated as the result of direct observation, was conformable with what might be anticipated from a consideration of the nature of the lesion in each. It was stated, that epilepsy did not constantly, and therefore did not necessarily (no matter how long it may have existed) include any other symptoms than those of the attacks; and it was urged, that when other symptoms present themselves, the cases he considered either as complications of epilepsy, or as some other disease. In relation to treatment, the most important point was to recognise the existence of chronic meningitis, and to treat this either as a disease in itself, or as the complication of either epilepsy, or tumour, or softening. The treatment especially dwelt upon, as the most important in cases of chronic meningitis, was the long protracted exhibition of mercury.

Dr. Gibbon did not agree with the author of the paper respecting the influence of epilepsy on the mind. In all cases which had come under his (Dr. Gibbon's) care, epilepsy had deteriorated the mental faculties.

Dr. Camps could not regard epilepsy, either in its nature or effects, to be so simple as did Dr. Reynolds.

Dr. Robarts had noticed, in cases of tumour of the brain, that the patient was constantly turning to one side—the side on which the tumour was situated.

Dr. Leared inquired if Dr. Reynolds had tried the effects of a total change of diet, in cases of epilepsy. In the case of a lady, in whom epilepsy had lasted from puberty to the age of thirty, he (Dr. Leared) had tried the effects of abstinence from all animal food, but the result was not satisfactory. In most cases of epilepsy the mind became weakened.

Dr. Hare considered that when epileptic fits were kept in abeyance, even for a very long period, that the condition of the brain which produced them still obtained, and that the seizures might recur even after many years. In most cases of simple epilepsy of long continuance, he had found the mental faculties deteriorated.

Dr. Reynolds, in reply, said that with respect to the relation between epilepsy and the mind, statistics had satisfactorily shown, that when the mind was affected in these cases, it was usually so before the occurrence of the epilepsy or soon after; but that the mind was not necessarily deteriorated by the occurrence of the fits. When the mind was affected, it was from some cause superadded to the epilepsy. With respect to the use of stimulants in epilepsy, he had tried them in some instances, but they possessed no particular value. In one or two instances they appeared to have warded off an attack, but the same result would have been obtained from other remedies. He had never tried a complete change of diet in epilepsy.

Dr. Jephson exhibited the cancerous uterus of a patient who had recently died under his care at the Westminster General Dispensary.

INSUFFICIENT SIZE OF THE OPENING IN TRACHEOTOMY.

Dr. Edward Smith drew the attention of surgeons to the insufficient size of the opening usually, or perhaps invariably, made in tracheotomy, and thought it very probable that the ill success of the operation might in part be attributable to that circumstance. In many cases there is constant relief afforded on the opening having been made, and then soon afterwards that relief disappears; and he accounted for it by showing that when the glottis was very nearly closed, as is commonly the case before the operation is performed in this country, any additional volume of air, however small, would afford relief; but unless that volume were nearly as large as that commonly passing through the healthy glottis, it would be insufficient to sustain life. It would not be a material circumstance if the glottis were not quite closed; for the presence of the tracheotomy tube in the trachea would so impede the passage of air through the glottis, that probably no air would enter the bronchi but that passing through the artificial opening. The size of the opening should therefore be that of the glottis; but since the area of the glottis constantly changes with respiratory movements, it cannot be estimated and taken as a guide. The trachea, however, has a tolerably constant size, and must have an area corresponding with that of the glottis above and the bronchi below, and thus it may be taken as a safe guide for this purpose. In an adult, therefore, he would recommend that the clear opening should not be less than five-eighths of an inch, and in a child not less than three-eighths to half an inch, according to its age. In an adult it must be competent to pass twenty to thirty cubic inches, and in an infant of two years from twelve to fifteen cubic inches at each inspiration. If the area of the opening be less then the patient would not live, although the operation might be very proper and fitted to succeed with a large opening.

Mr. Henry Smith, Dr. Gibbon, Dr. Willshire, and others, took part in the discussion.

Dr. Ogier Ward read a paper

ON THE MEDICINAL EFFECTS OF AMMONIA AND ITS PREPARATIONS.

Ammonia has never been considered to be a normal constituent of the blood, as its presence had not been detected except after death in cases of typhus, cholera, melæna, and other diseases of a putrid character, until Dr. Richardson's recent discovery that healthy blood owes its fluidity to the presence of ammonia, which is given off during its coagulation, which process may be arrested, and the fibrine re-dissolved, by the restoration of the alkali. An interesting inquiry here suggests itself; how does the ammonia escape from the body during the coagulation of the blood, and how is it retained in those instances in which the blood remains fluid after death? Assuming the truth of Dr. Richardson's views, the author examined and compared the therapeutic effects of the various preparations of ammonia; and he has found that, whether applied externally or taken inwardly, they possess in common the property of dissolving the proteine elements of the blood, whether in the vessels or effused into the tissues; and thus confirm the experiments of Dr. Richardson. This similarity in the effect of ammoniacal medicines is owing to their ready decomposition, the ammonia being separated, and forming the chief curative agent, though it is aided by the other substances originally combined with it. Thus its stimulant and solvent action is similar in kind, if not in degree, when used either externally or inwardly in the form of gas, liquor ammonia, or combined with carbonic acid, &c. From the utility of these preparations in the treatment of venomous bites and stings, inflammatory swellings, diphtheritis, croup, &c., we may suppose that they will be equally efficacious in urticaria, erythema nodosum, and erysipelas, in which there is an effusion of the fibrinous elements of the blood. In these and other inflammatory diseases and conditions, it is probable that the ammonia is carried out of the system in the form of urea or lithate of ammonia contemporaneously with the increase of fibrine in the blood; and that the benefit of the salts of ammonia in such cases is owing to their preventing or removing the effusion of fibrine from the inflamed parts. In this way, although the primary action of ammonia is stimulant, its remote effects are sedative or debilitant, as it not only arrests inflammatory action, but by its resolvent and secernent power, carries the products of inflammation out of the system, and hence its utility in all active febrile complaints. It is to this attenuating property that its use as an antidote to drunkenness and to the stupor of opium is to be ascribed. Its stimulant powers are of use in poisoning by hydrocyanic acid, in the cold stage of ague, and in the retrocession of gout, rheumatism, and the exanthemata, as well as in syncope, hysteria, epilepsy, and convulsions. The hydrochlorate, which is the least easily decomposed, is probably the most useful of the salts of ammonia, as it not only possesses the stimulant, resolvent, secernent properties of the others, but owing to its combination with chlorine, is endued with tonic powers, by which its prolonged use, unlike that of the other preparations, is attended with invigorating effects both to mind and body; and thus it forms an excellent substitute for mercury in cases where this medicine is inadmissible from its tendency to produce cachexia.

PATHOLOGICAL SOCIETY OF LONDON.

Mr. Spencer Wells exhibited the microscopical preparations illustrating the structure of a

TUMOUR FROM THE FLEXOR TENDON OF A FINGER;

which tumour he had removed from the forefinger of an old lady a month before. It had been of slow growth, but had returned after removal by another surgeon. Mr. Wells dissected it carefully from its firm attachment to the sheath of the flexor tendon. The wound healed by the first intention; but, from an examination of the structure of the tumour, Mr. Wells had prepared the patient for its probable recurrence. It was about the size of a walnut; of a soft, gelatinous consistence and ruddy hue, very fine bloodvessels traversing its substance in considerable abundance. The substance was uniform, but arranged in lobules having very fine enclosing membranes. Its specific gravity was 1·022. Mr. Wells said that he was indebted to Dr. Aitken for the preparation, which would show that, in general microscopic appearance, the texture of the tumour was very like the young nucleated blastema of fibrous tissue in the earlier and progressive stages of its development; yet there was no general resemblance to fibrous or to recurrent fibroid tumours obvious to the naked eye. Its specific gravity also was peculiar, most varieties of fibroid tumours being described as hard, heavy, and dense; and Mr. Wells repeated a suggestion of Dr. Aitken's, that the specific gravity of tumours should be more frequently determined after their removal, as surgeons lay great stress on the weight and firmness of tumours, when forming an opinion as to their character in the living body. Mr. Wells thought it was an open question whether the tumour now brought before the Society belonged to one of the forms described as "transitional to cancer," or, taking into consideration its lobulated character, its rudimentary structure, and the frequent occurrence of enchondroma on the fingers, it might be an enchondromatous tumour in its early condition.

Mr. Spencer Wells also presented a

PIN, SWALLOWED THIRTEEN YEARS AGO,

which he had that morning removed from the left mamma of a female twenty-nine years of age. Twenty-seven pins had been removed by Mr. Jones, a Welsh surgeon, at various intervals; twenty-five from the mamma, one from the left wrist, and one from the left knee. Mr. Henry Thompson had also removed one from the left mamma about two years ago, and Mr. Wells believed he had brought the case before the Society.

Mr. Birkett, in allusion to the last case, referred to an instance in which pins were removed from the breast of a female, who appeared on several occasions at Guy's Hospital. It was ascertained that the pins had been previously thrust into the gland.

Mr. Curling exhibited a specimen of

DISEASED PROSTATE.

The parts exhibited were taken from a man aged fifty-five, who was admitted into the London Hospital with symptoms which raised the suspicion of the existence of stone in the bladder. On careful sounding, no stone was detected; but the prostate, when examined by the rectum, was found to be enlarged, tender, indurated, and nodular. No difficulty was experienced in passing the instrument, but it gave pain, and was followed by slight bleeding. The pain on micturition increased and became intense, and was succeeded by pain in the lumbar region. Retention of urine occurred, the patient became typhoid, and died. Both kidneys were found diseased, the appearances being those of old Bright's disease with recent acute inflammation. The bladder was thickened, and its mucous lining congested. The prostate was enlarged, its middle lobe prominent, and it was also much harder than natural. On section, it had the appearance and feel of scirrhous disease. The cut surface was dotted with opaque yellow spots, from which there issued, on pressure, an abundant quantity of a thick, homogeneous-looking juice. The juice was examined microscopically by Dr. A. Clark, who found, with the exception of a few suspicious cells, no appearance of scirrhous disease. Notwithstanding Dr. Clark's examination, and the rarity of scirrhus of the prostate, Mr. Curling, forming his opinion from the history of the case, the excessive induration of the gland, and the appearances exhibited in the section, was inclined to regard the disease as of that character. The man died chiefly from acute nephritis, but his symptoms on his admission were all referable to a morbid state of the prostate.

Mr. Simon considered the specimen shown by Mr. Curling to be one of much interest, and that it should be referred to a committee to report upon its nature. He had seen two or three cases of soft cancer of the prostate, but hard cancer of that organ was exceedingly rare. He had seen casts of the cells of the prostate thrown off by the urinary passage as the result of gonorrhœal inflammation; but the other microscopical appearances mentioned by Mr. Curling were of a doubtful character.

Mr. Curling remarked that his patient had died of acute inflammation of the kidneys supervening upon Bright's disease.

Mr. Hutchinson had seen the case related by Mr. Curling, and had regarded it at the time as a well-marked example of scirrhus—so well-marked, indeed, as not to require the microscope to determine its nature.

Mr. Curling also showed a

MELANOTIC TUMOUR GROWING FROM THE OUTSIDE OF THE EYEBALL.

A man aged forty-eight, was admitted into the London Hospital on account of a large tumour and projection of the right eye. The disease commenced about four months previously. Mr. Curling excised the globe and tumour, and the man recovered favourably from the operation. A section being made of the tumour, a melanotic mass, about half an inch in thickness, was observed on the outside of the eyeball, closely connected with the posterior half of the sclerotica. This part of the sclerotica was much thinned, and at the extremities of the tumour split, as if the morbid growth had been developed between its layers. The optic nerve was nearly surrounded by melanosis, and compressed and partially atrophied by this morbid growth. The tumour was composed of distinct masses of different shades of black. In the microscope, the appearances were indicative of cancer. Mr. Curling remarked, that melanosis occasionally attacked the internal structures of the eye, but that he knew of no recorded case in which that disease, or medullary cancer, had grown from the outside of the sclerotic without further implicating the globe, as in this instance.

Dr. O'Connor brought under the notice of the Society the whole of the

ABDOMINAL ORGANS CONNECTED TOGETHER BY COLLOID AND ENCEPHALOID DISEASE, ASSOCIATED WITH SCIRRHUS OF THE PYLORUS,

removed from a man, aged forty-six, a native of Milan, by trade a picture-frame maker, who was admitted a patient under his care, at the Royal Free Hospital, on the 20th of October last. When first seen, he complained of severe pain in the epigastric region, rather to the right side, with oppressed and difficult breathing, the abdomen was swollen, and he was slightly jaundiced. The pulse was small and frequent—110 in a minute. The patient was rather thin, and had an anxious expression of countenance. On examination of the chest there could not be detected any evidence of disease of the lungs or heart. On the 23rd, the symptoms were very much relieved by the treatment adopted, which consisted of purgatives, composed of compound powder of jalap and calomel, the bowels being very much confined, and diuretics, with hydrocyanic acid and sesquicarbonate of soda. On the 30th the symptoms became more urgent, the pain in the epigastrium was excruciating, and there was general dropsy, with jaundice. Mild mercurial treatment, with moderate purgatives and diuretics, together with a blister to the painful part, were had recourse to; and by the 7th of November, the dropsy and jaundice entirely disappeared, the only symptoms existing were pain in the epigastric region, but to a trifling extent only, and tenderness on pressure to the left of the umbilicus. The great size of the abdomen being now reduced, on a careful examination, a hardness was felt occupying nearly the whole of the epigastric region, extending from the under surface of the liver to the left hypochondriac region, from thence descending to and filling up the left iliac fossa. On inquiry, it was found that the patient had suffered more or less for nearly two years from severe pain in the epigastrium, with frequent attacks of nausea and retching, and that he had once before had an attack of jaundice. He was, during these attacks, alternately an out-patient at St. Bartholomew's Hospital and under the care of Mr. Pollock, of Hatton-garden. Mr. Pollock attended him some months back for an enlargement of the right testicle, which ultimately did well. Dr. O'Connor now viewed the case as one of malignant disease, which he supposed to be primarily connected with the stomach, and from thence extending through the abdomen.

On the 18th of November, the patient complained of more severe pain all over the abdomen, intense and frequent thirst, constant retching, pain, and starting of the left lower extremity; the pulse was 140; the urine scanty, and loaded with urates; the tongue furred, skin hot, and the bowels constipated. Effervescing medicines, with anodyne fomentations and mild purgatives, and afterwards anodynes internally, were had recourse to with benefit. In a few days the patient vomited a quantity of fœtid purulent matter free from fæces and the coffee-ground character usually present in these cases. The urgency of the symptoms was now very much lessened; the enlargement in the left iliac fossa became less, and the starting and painful condition of the left lower extremity nearly disappeared; the tongue was clean, and the urine was clear and abundant. On further examination of the abdomen, nodulated masses could be felt distinctly over the whole of it. The retching became more frequent, and nothing could be retained on the stomach; even a teaspoonful of cold water or a little ice gradually dissolved in the mouth was rejected as soon as it reached the stomach, and it was necessary to sustain the patient by enemata of brandy and beef-tea. During this time there was frequent vomiting of the same purulent matter as before. In this state the patient continued until the 16th of December, when he died a mere skeleton.

A post-mortem examination was made thirty-six hours after death. Nodulated masses could be distinctly felt through the abdominal walls. On opening the abdomen, which contained about three pints of serum, and reflecting the parietes, the following structures presented themselves, as seen in the model and drawing, from above downwards. The thickened diaphragm; the ensiform cartilage displayed upwards, and to the right side; a small portion of the left lobe of the liver; a nodulated mass in the situation of the omentum, concealing all the other structures, excepting the left iliac fossa, where a small portion of the sigmoid flexure of the colon touched the abdominal parietes. The reflected parietes presented nodules of colloid cancer. The organs of the abdomen were removed *en masse*, being all connected together by a large apparently colloid and encephaloid growth. Their relations to each other were altered in various ways by pressure of the growth, which had not infiltrated their structure. Thus the pyloric extremity of the stomach was dragged down, so that the longitudinal axis of that organ was more vertical than usual. When opened and viewed posteriorly, a large mass of cancer was seen, the central portion of which was scirrhous, and the peripheral portion colloid. The mucous membrane of the pylorus was to a small extent destroyed. At this part there was a very small opening, which appeared to be recent. The peritoneal surface of the stomach presented nodules of colloid, but the mucous membrane was entire, except at the pylorus. The liver, especially the right lobe, was much compressed by the diaphragm, which was itself much thickened, throughout its entire extent, by a layer of cancerous deposit; this layer had not superseded the muscular and tendinous structure of the diaphragm, although, from pressure, it would appear that the muscular portion was atrophied. The right lobe of the liver reached up to nearly the third rib. The inferior cava and hepatic duct were surrounded and compressed by the general mass, and the gall bladder was therefore much engorged. The structure of the spleen was condensed from pressure of the surrounding cancer, which had encroached into the hilus, with which it accurately corresponded; but the interior of the spleen was free from cancer, and otherwise healthy, excepting two buff-coloured spots, the nature of which could not be made out. The kidneys and suprarenal capsules were healthy, but the latter were compressed and atrophied. The pancreas was identified with the general mass, which extended downwards throughout the omentum; and the transverse colon lay in a groove surrounded, but not infiltrated, with cancer. The remaining portion of intestines, large and small, were free and unobstructed; but a few convolutions which lay across the lumbar vertebra were reduced almost to the size of a quill. The bladder was healthy, and so were the lungs and heart, but the veins of the latter were very turbid. On microscopical examination, the growth proved to be made up of schirrous, colloid, and encephaloid.

Dr. O'Connor observed that there are two cases recorded in the "Transactions of the Pathological Society of Dublin," one by the late Dr. Greene, and the other by Dr. Lees, very much resembling the case brought forward by him. In Dr. Greene's case, however, there was no retching or vomiting until about ten days before death, when a coffee-coloured fluid was thrown up; but there was ulceration of the stomach. The patient had been complaining nine months. In Dr. Lees's case the patient had complained only for five weeks; there was no pain or tenderness on pressure; there was frequent vomiting, but no ulceration of the mucous surface of the stomach. In the current number of the *Glasgow Medical Journal*, there is a similar case recorded by Dr. J. Bell, occurring in a woman thirty years of age, who died in eight months after the first symptom was complained of. In Dr. Bell's case, besides the pylorus being a mass of scirrhus, and the omentum being also attacked, the cancerous matter infiltrated some of the abdominal organs.

A very beautifully executed model, by Mr. Tuson, which was much admired, was exhibited, showing the appearances presented on opening the abdominal cavity, in the case under the notice of the society.

Dr. Cockle showed a

GANGRENOUS (?) ABSCESS OF THE LUNG,

occupying the ordinary seat in the majority of such cases—the lower lobe of the right lung, and the periphery rather than the central portion of that organ. The specimen was removed from the body of a middle-aged man, of delicate constitution and cachectic appearance. He had been under treatment nearly a year, with symptoms of emphysema. About ten days before his death he was seized, without premonition, with symptoms of pleuro-pneumonia of the right lung, of low intensity, his constitutional state being that of marked adynamia. Nearly coincident with the local symptoms, profuse expectoration occurred, of somewhat viscid, albuminous sputa, of almost milky whiteness, amounting to nearly a pint in the twenty-four hours, and of so offensive a character that the attendants could hardly remain in the room. On a physical examination of the chest, about three days subsequent to the attack, obvious dulness existed over the middle and lower right anterior-lateral portions of the chest, and a large mucous râle was heard during inspiration. The patient rapidly sank, without further change. Upon examining the body, the left lung was found unadherent, large, distended, extending beyond the mesian line, and covering the superficial area of the heart. No post-mortem stasis existed, even at its root. The right lung also, free and distended above, was strongly adherent to the costal pleura, at its middle and lower portions, by old and recent adhesions. In detaching the lung at this situation, the outer wall of the abscess gave way, and about two tablespoonfuls of dirty-grey pus escaped. The cavity is, perhaps, large enough to hold a pigeon's egg; it is lined by false membrane in parts, hanging in dark, discoloured shreds. The parenchyma is extensively solidified around the abscess, particularly above. Neither the pus nor the walls of the cavity participated in the excessive fœtidity of the expectoration. No effusion was found in either pleural sac. The heart appeared congested; its walls were very dark, and readily torn. The right chambers contained dark grumous blood, and a small, decolorized, unadherent plug extended from the right auricle into the pulmonary artery.

Dr. Murchison exhibited a specimen of

ABSCESS OF THE RIGHT LOBE OF THE LIVER, COMMUNICATING WITH THE COLON.

The abscess was of large size, and contained two or three pints of fluid fæculent matter, of a light-yellow colour. The upper two-thirds of its walls were formed by the hepatic tissue, and presented a loose and shreddy aspect, without any limiting membrane. The lower third was completed by the kidney, the anterior layer of the fascia lumborum, and about three or four inches of the ascending and commencement of the transverse colon. This part of the bowel presented a cribriform appearance, and communicated freely with the cavity of the abscess. All that remained of the wall of the gut, which was opposed to the abscess, consisted of a number of sloughy bands, passing transversely across its axis, and between which the finger could be passed easily into the bowel. There was extensive ulceration of the ascending colon, and adhesions of the viscera in the right side of the abdomen. The preparation was obtained from the body of a man, aged forty, who had always enjoyed good health, and had been a temperate liver. After an exposure to cold he was suddenly seized with severe pain in the right hypochondriac region, which became so severe that on the second day he was obliged to go to bed. This pain continued without any intermission, and at the end of four weeks, when he was admitted into St. Mary's Hospital under Dr. Sibson, there was observed in the right side of the abdomen a painful, obscurely fluctuating swelling, continuous upwards with the liver, and extending as far downwards as the crest of the ilium, and forwards to within three inches of the linea alba. A week after admission into hospital, diarrhœa set in with puriform stools. This ceased after four days, by the end of which time the swelling had greatly diminished, the pain had disappeared, and there was great amendment in the general symptoms. The patient continued to improve for about a fortnight, when the diarrhœa suddenly returned, along with severe pain limited to a spot two inches below the margins of the right ribs, in a line with the nipple. The diarrhœa resisted all treatment, and hectic fever setting in, the patient gradually sank and died on the sixteenth day from its recommencement, or in the tenth week from the beginning of his illness.

Mr. SYDNEY JONES showed the following specimens:

1.—PASSAGE OF FOREIGN BODIES THROUGH THE WALLS OF THE INTESTINE.

(*a.*) Hair-pin: from a little girl, aged five; there is no recollection of her having swallowed it. She first began to complain of pain in her abdomen about the commencement of 1855, but this pain became very severe about April, at which time a swelling was observed below, and to the right of, the umbilicus. The swelling increased, with pain and tenderness, and broke in sixteen days after its appearance. Pus continued to be discharged from the wound till December, but at this time fæculent matter began to be mixed with the pus, and in January, 1856, the points of the pin made their appearance. After a little manipulation the whole of it was removed on the 2nd of February. Fæces continued to be discharged during the first month from the wound; the latter, however, gradually contracted, and at about the end of another week it was entirely closed. The patient now is in excellent health, cicatrices marking the site of the former wound.

(*b.*) Fish-bone, from a case of fistula in ano. The patient, a lady, recollects, about twelve months before, having swallowed a small fish-bone, and for some weeks after was very uncomfortable, complaining of difficulty and pain in swallowing; this, after a time, however, subsided, and until lately she suffered no inconvenience. About seven or eight weeks ago, she began to complain of uneasiness about the rectum. Pain and tenderness followed in the ischio-rectal fossa, soon succeeded by the other signs of an abscess. This burst, and on the day of its bursting, preparations were made for dividing the sphincter. The finger passed into the rectum detected this fish-bone; one end was in the rectum, the other protruded through the intestinal walls.

2.—CASE OF INTUSSUSCEPTION, PROVING FATAL AFTER NINE WEEKS.

Arthur B——, a fine and healthy child, four months old, and living entirely upon the breast, was suddenly seized with obstruction of the bowels and vomiting.

On October 9th, a small quantity of mucus and blood passed with much straining. The countenance showed great distress, and there was extreme faintness. These symptoms lasted till the 11th, i.e., three days, when the action of the bowels was restored, and the sickness much subsided until October 28th, nearly three weeks from the first attack, when the obstruction, vomiting, and other symptoms returned and continued until October 31st, three days, when the action of the bowels again took place, and vomiting entirely ceased. The evacuations were always attended with severe straining, and on the 24th of November a portion of the bowel first protruded at the anus. This continually increased, until as much as six inches of intestine would be found down, and was with difficulty returned. Sloughing of this part was rapidly going on. The child took the breast freely, and never vomited. These conditions lasted until the 11th of December (*nine weeks* from the commencement of the attack), when he died.

On examination, the intussuscepted portion consisted of small intestine, which had been protruded along the ascending transverse and descending colon, and eventually from the anus. A probe passed along the intussuscepted portion showed it to be pervious. Its calibre was, however, much diminished, and its canal was occupied by a small quantity of yellow fæculent matter, mixed with mucus. The opposed peritoneal surfaces of the prolapsed portion were adherent along their whole extent by firm fibrous bands. On laying open the arterial tube, and thus exposing the prolapsed portion, sloughing was seen to have extensively involved the latter; this sloughing was situated about its middle, and extended for about an inch and a half of the length of the intestine, and involved about two-thirds of its circumference.

Mr. JOHN WOOD read a report on a specimen of

TESTICLE RETAINED IN THE ABDOMEN BY ADHESION TO THE SIGMOID FLEXURE OF THE COLON.

This specimen was taken from the body of a man between forty and fifty years old. The right testicle was in the scrotum, and double its natural size. The left side of the scrotum was empty, the testicle being found, on opening the abdomen, to be lying in the left iliac fossa, between the sigmoid flexure of the colon and the internal abdominal ring. It looked tolerably plump, but was about one-third its proper size. To the inner side of the gland was placed the epididymis, the globus major reaching above, and the minor below it. The latter passed for about half an inch through the internal abdominal ring. Connected with it in the usual manner, and engaged also in the orifice of the ring, was the vas deferens, of the normal calibre and appearance. Passing from the globus major at its junction with the testis, to the mesenteric border of the sigmoid flexure of the colon above it, were three very distinct transparent and elevated bands of adhesion, of which the one placed most internal was the longest and strongest. The spermatic vessels, rather smaller than usual, passed behind the adhesions to enter the testicle and epididymis. A pouch of peritoneum like a hernial sac extended through the inguinal canal, projecting about three-quarters of an inch outside the external ring. A slip of fascia, very like the cremaster muscle in appearance, passed from its attachment at Poupart's ligament, one portion going out of the external ring to be lost on the scrotum, and another directly over the cord to the conjoined tendon. On examining this with the microscope, however, no trace of muscular fibre could be found in it. The cremasteric branch of the epigastric artery was present, and fully of its normal size. The remains of the gubernaculum could be traced. Nothing more than white and yellow fibrous tissue and fat could be found in it under the microscope. In many of the mesenteric glands were found chalky concretions like the *débris* of tubercle. No other adhesions were seen in any part of the peritoneum. These conditions seem to point out the history of the abnormality as local inflammation from mesenteric disease in fœtal life or early infancy, formation of adhesions, and arrest of the descent of the gland at the utmost stretch of the adhesions. The testicle, the seminal tubuli of which seemed healthy, had thence been stunted in development, because of its unfavourable position and seclusion from external stimuli, though able, probably, to secrete a partial amount of semen. The other testicle had adopted a sufficiently counterbalancing vicarious action.

MICROSCOPIC EXAMINATION OF A TUMOUR CONNECTED WITH THE TIBIA, AND IMPLICATING THE KNEE-JOINT, EXHIBITED BY MR. PARKINSON.

(*Reported by* Mr. Wood *and* Mr. Parkinson)

The tumour was about the size of an orange, and had originated apparently in the periosteum, under the popliteal muscle, and thence projected backwards into the popliteal space, upwards and forwards into the knee-joint, involving the cartilage covering the internal tibial tuberosity, with a lesser projection forwards and outwards between the tibia and fibula. The softest portion of the tumour was found in the site of the popliteus muscle, the outline of which was to be traced, bound down by the popliteal fascia, though no muscular fibres were apparent under the microscope. Here were found large but various-sized compound or mother cells, round and oval, containing two, three, or more nucleated cells, with much granular matter. Many of them were thickly studded with highly-refracting globules of various sizes, and in some instances coalesced; these were apparently fatty matter. In the juice were multitudes of free granules, and some fat globules. A few elongated, fusiform, compound cells were also present in this part of the growth. In that part of the mass involving the interosseous and other ligaments, the cells were likewise compound and granular, but uniformly elongated and fusiform. In the part involving the cartilage were many cells of the same character as those in the softer parts, but the majority were oval, and some caudate. They had all an opalescent appearance, similar to that of healthy cartilage cells, having a greater refracting power than the other cells of the tumour, but they were still compound and granular, and varied much in size. We think the microscopic appearance justifies the inference that the growth is carcinomatous.

Dr. Markham exhibited a preparation of

CANCER OF THE GALL-BLADDER,

arising in the tissue of the gall-bladder itself. The liver and other organs of the body were healthy; the pleura and peritoneum contained small patches of carcinomatous infiltration.

Dr. Peacock exhibited two specimens:—

1.—A LARGE ANEURISM OF THE ASCENDING AORTA, WHICH PRESSED UPON THE RIGHT VENTRICLE AND AURICLE.

This preparation was removed from the body of a Hastings boatman, aged forty-two, who had been a patient of Dr. Barnard and Dr. Stevenson. For the opportunity of examining and exhibiting the specimen, Dr. Peacock was indebted to Mr. Penhall. The patient was first seized after a hard day's work, about two years before his death, with pain in the left side of the chest, and difficulty of breathing; and, latterly, he had suffered from aggravated symptoms of cardiac asthma, with anasarca and hydrothorax. The aneurism originated by an oval aperture, about an inch in diameter, from the right side of the aorta, immediately above the aortic valves. From this point the sac spread out into a large cavity, and pressed inferiorly upon the base of the right ventricle, and posteriorly upon the right auricle. The sac was covered externally by the adherent pericardium; its walls contained several large plates of bone; and internally it was lined by a rough and irregular membrane, and contained in places partly decolorized coagula. The perinæum adhered to the heart everywhere, except towards the apex, and, where it was adherent, there was a thick and wide plate of bone, which entirely encircled the heart. The heart was generally, but not very considerably hypertrophied.

2.—MITRAL VALVULAR DISEASE.

This specimen was removed from a boy of nineteen years of age, who was admitted into the Victoria-park Hospital, with symptoms of bronchitis and mitral valvular disease, in November, 1856. He died on the 11th of the present month. He had extreme difficulty of breathing, and a loud murmur was audible with the systole, most distinctly beneath the nipple; latterly, he was very anasarcous; the liver was greatly engorged; the urine contained albumen; and he expectorated blood. The mitral valve was thickened and indurated, and the aperture so greatly diminished as to be only capable of giving passage to a ball measuring twenty-four lines in circumference; the aperture was permanently patent; the heart was generally hypertrophied, and its cavities dilated. It weighed twenty ounces and a half.

Mr. **Baller** showed a specimen of

EXTENSIVE INVAGINATION OF THE SMALL AND LARGE INTESTINE, AND POST-MORTEM DESTRUCTION OF THE POSTERIOR WALL OF THE STOMACH BY THE GASTRIC JUICE.

The subject from whom this specimen was taken was a female infant, aged six months. She had been fed at the breast entirely until the last week of her life, during which she had eaten some bread-and-butter. She had never had diarrhœa, or taken any aperient medicine, the action of the bowels having always been regular and natural. On the evening of December 30th she was suddenly seized with vomiting and apparently great pain, which continued, but appeared to become easier during the night. Mr. Baller first saw her about noon on the following day; she seemed then to have pain in the abdomen, vomited occasionally, and passed frequently a small quantity of blood-stained fluid from the anus, but no fæces whatever. These symptoms continued, with little variation, for four days, although the pain seemed to have been modified, probably by the opiate enema which was used daily. On the 3rd of January a larger enema was administered, containing some olive oil and two drachms of castor oil, which, according to the nurse's report, was succeeded by ten stools. There certainly was (observed Mr. Baller) a little feculent matter on some of the napkins shown to him, and now no blood, but some transparent and glairy mucus. The skin was pale, and the countenance exhibited distress. There was much tenesmus. Death occurred on the morning of January 4th, being the fifth day of the illness. The peritoneum contained a few drachms of brownish serum; the bloodvessels of the small intestine were much congested, the intestine being distended with air. The cæcum could not be discovered; but, on tracing the small intestine, the ilium was found to terminate in the descending colon, which was much puckered, and, together with the rectum, was distended to within two inches of the anus, with a volvulus consisting of a portion of the ilium and the whole of the superior part of the large intestine. The volvulus was of a very dark colour, from congestion; and the presenting portion afforded to the top of the finger the same sensation as the adult os uteri. The posterior wall of the greater curvature of the stomach was reduced to a soft gelatinous state, and it allowed the contents of the organ, about three ounces of partially-digested milk, to escape on the first attempt to raise it from its position. Mr. Baller concluded his remarks by observing that this case afforded a good illustration of the destruction of the coats of the stomach by its own secretion, after death has occurred.

Dr. **Wilks** and Mr. **Hutchinson** reported upon Dr. **Gibb**'s case of

OVARIAN TUMOUR, WITH DISEASE OF ONE SUPRA-RENAL CAPSULE.

The diseased mass proved to be medullary cancer throughout, which form of the disease was found also to be present in the small tumours developed in the substance of the liver. The microscopical examinations of both, which were made distinct from one another by each gentleman, perfectly agreed upon this point.

Dr. **Gibb** stated that, since he had exhibited the ovarian tumour, he had examined its interior, and found it to consist of a large parent cyst, containing eleven pints and fifteen ounces of a dark-brown, very thick fluid, resembling coffee-grounds; and a series of smaller cysts developed within, one the size of a fist, situated at the upper part of the interior of the large cyst, and containing various kinds of thick, viscid, gelatinous fluid. The pelvic portion of the tumour consisted entirely of medullary cancer, as well as the deep lumbar glands, which were likewise affected with melanosis. He had carefully examined into the history of the case, had seen the patient's friends, and had learnt that there was a distinct brownish discoloration of the chest and abdomen, but especially marked below the navel, which was first noticed two years ago last August, and which he (Dr. Gibb) recollected to have seen at that time, but did not attach anything of value to it, as Dr. Addison's discovery had not been made public.

Mr. **Hutchinson** exhibited a specimen of

HYDATID IN THE ANTERIOR CHAMBER OF THE EYE OF A HORSE.

The eye had been forwarded to him by post in an unopened state, and without any note of explanation as to who had sent it, or whence it had been obtained.* It was quite fresh, and showed, on section, a most interesting condition. The cornea was thickened and opaque; the vitreous humour was yellow, and of the consistence of syrup, running out when the sclerotic was divided; the retina was detached, and hanging in folds; the lens was hard, and of a yellowish-brown colour. The eye, in fact, although retaining its natural shape, &c., was completely disorganized. The cause of this mischief seemed to be found in the presence in the anterior chamber of an hydatid cyst. This cyst, which consisted of two concentric laminæ of beautiful translucency and extreme thinness, occupied the whole of that chamber, and pushed back the iris. Around its lateral margin it was in several parts firmly united to the adjacent textures. Its contents were a clear fluid and some portions of a solid material resembling isinglass. A careful microscopic examination had failed to detect either echinococci or that lamination of the cyst-wall which is characteristic of the echinococcous hydatid. Surrounding the outer hydatid cyst, in every part was a tough membrane—thick and corrugated in parts, in others thin and flexible—which appeared to be the inflamed and thickened membrane of aqueous humour. It accurately lined the whole of that chamber, and was adherent at its circumference to the ciliary ligament; passing in front of the iris, it dipped through the pupillary aperture to become united to the capsule of the lens. The posterior chamber was so much obliterated by the pushing back of the iris, that it was impossible to say whether or not it were also lined by the membrane alluded to. Mr. Hutchinson adverted to the improbability of this membrane having resulted from inflammatory changes, although in a lost eye such a mode of production must be admitted to have been possible. He thought the specimen militated very strongly against the opinion held by Mr. Bowman and others, as to the non-existence of the membrane alluded to, and in support of that of the old anatomists.

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* Mr. Hutchinson wishes us to state that, should this meet the eye of the gentleman who sent him this specimen, he will be additionally obliged by some particulars of the case being forwarded, especially in reference to the duration of the disease, &c. In all probability, the note sent with it has miscarried.

After some observations, the specimen was referred to Mr. Haynes Walton, to report upon to a future meeting.

Mr. Birkett exhibited the dissection of a case of

RIGHT, DIRECT, INGUINAL HERNIA.

It occurred in a male, aged eighty-one years. He had been the subject of strangulated bowel about seventy-two hours, when Mr. Birkett was called upon to relieve the constriction by operation. He died of acute peritonitis. He had been ruptured for about eight or nine years, according to his statement. The preparation exhibited the characteristics of this variety of hernia very distinctly. The protrusion extended into the scrotum, the external abdominal ring. The spermatic cord was attached to the outer and inferior border of the tumour, just before it traversed the external ring. The fibres of the cremaster muscle, the conjoined tendons of the internal oblique and transversalis muscles, and the pubic portion of the fascia transversalis assisted to form the coverings of the peritoneal sac. The neck of the sac, viewed from within, was about one inch and a half to the inner side of the internal abdominal ring, and half an inch inside the course of the internal epigastric artery.

EXTENSIVE DISEASE OF THE KIDNEYS, FROM A CASE IN WHICH DEATH WAS PRECEDED BY PUERPERAL CONVULSIONS.

The case from which the specimens exhibited were taken, was one of considerable interest. A woman, aged twenty-six, was seized, twelve hours after delivery, with dimness of vision, and quickly following convulsions, the attack of convulsions leaving behind it coma of a peculiar character. Convulsions occurred at intervals of half an hour to an hour for the next twelve hours; and death took place sixteen hours after the first attack of convulsions. The left kidney was found *exceedingly* atrophied, weighing rather less than three drachms. The right kidney exhibited an advanced condition of that known as granular fatty degeneration. Its weight was eight ounces. Cortical substance atrophied, of a yellowish-white colour, with red striæ, consisting apparently of enlarged veins; tubular substance also atrophied, and paler than usual; texture generally very torn and flabby. Urine, bloody and albuminous, was found in the bladder. Valves of heart somewhat thickened; walls of left ventricle about one-third thicker than usual, in places much exceeding this measurement; endocardium thickened, opaque, and of a dull-yellow colour. The woman had lived for some time under great privations. It was afterwards ascertained that the lower extremities had been anasarcous six weeks before death. In several respects the case was interesting, and the more so as the pathology of puerperal convulsions is confessedly, even at the present day, somewhat obscure.

Dr. Bence Jones exhibited a specimen illustrative of a

CASE OF PNEUMOTHORAX,

in which a metallic tinkling was heard at each impulse of the heart. The patient was an inmate of St. George's Hospital.

Dr. Watson had on one occasion heard the same sound in a case of pneumothorax.

HAIR-PIN REMOVED FROM THE BLADDER.

Mr. Holmes exhibited a hair-pin which had been removed without dilatation of the urethra, from a young married woman. She had slipped the pin into the bladder. When removed, it was bent, and encrusted with phosphates, and stained with blood. It was removed by forceps.

Mr. Nunn exhibited

A LARGE FIBROUS TUMOUR OF THE RIGHT OVARY.

It was situated in and above the right iliac fossa; its weight was between six and seven pounds; its external layers rough and calcified. On section, it presented a uniform surface, quite peculiar, of a bluish-flesh colour, very elastic to the touch, feeling like india-rubber. It was adherent at numerous points to the intestine, omentum, and abdominal walls posteriorly. The adhesions were not inflammatory, but enclosing fresh accessions of vascular supply from neighbouring visceral branches. There was also a tumour of the uterus of the size of an orange; it occupied the left side of the pelvic cavity. The uterus was atrophied. The left ovary was twisted into the right ovarian region. The subject was about sixty years of age.

Some discussion took place respecting the tumour, and a question was raised as to whether the tumour were one of the ovary or of the uterus. The specimen was referred to Dr. Bristowe and Mr. Hutchinson.

Mr. Birkett showed two specimens of

ADENOCELE REMOVED FROM THE BREAST.

The first, removed by Mr. Muriel, of Hadleigh, from a patient aged thirty-one years, had been growing eighteen years, and was about three inches in diameter. It was dense, close, fibrous, and closely invested by a fibrous envelope. It exhibited all the external characters of a supernumerary mammary gland, except the ducts or excretory portion of the organ. The secretory portion was well formed—namely, the cæci of the ducts. The second specimen, removed by Mr. Teale, of Leeds, from a patient aged fifty-six, had been growing four or five months only. It was composed of a cyst and solid growth. The cyst contained sero-sanguineous fluid; the solid part consisted of lobuli projecting from small cells or crypts minutely divided, and but loosely attached. The solid mass was about two inches and a half in diameter. The minute divisions of the growth were composed of the cæcal terminations of the ducts.

Mr. Bryant exhibited a specimen of

FRACTURE OF THE NECK OF THE THIGH BONE WITHIN THE CAPSULE.

Mary H——, aged sixty, a lunatic inmate of the asylum at Guy's Hospital, five years ago, when walking in the garden, fell, and fractured her right thigh-bone. All the symptoms of fracture of the neck of the femur within the capsule were present, clearly indicating the character of the injury. A long splint was applied, but much difficulty was experienced in preserving the leg in the right position, from the restlessness of the patient. After some weeks' confinement, she was allowed to sit up, but her health soon began to fail, and she never walked again; and on June 30th she died from pneumonic phthisis. On examining the leg after death, it was found quite movable and in its natural position. The left thigh was firmly bent upon the pelvis, leading one to believe that this was the seat of the injury, and the mistake was only discovered upon removing the head of the bone. On excising the right head of the femur, the character of the injury was revealed. A fracture of the neck had taken place, and had firmly united by means of bone, fibrous tissue, and fibro-cartilage, as clearly perceived on microscopical examination. On comparing the specimen with the corresponding head of the left thigh, it was clear that a large portion, indeed nearly all, of the neck had been absorbed; this absorption probably having followed the inflammatory action, which was produced by the injury. In the head of the bone a large deposit of new bone, of a dense character, was observed, rendering it probable that its vascular supply is quite sufficient in itself to permit of the repair of injuries. Connected with this an interesting point may be observed. At the spot *only* where the new inflammatory deposit had reached the articular surface of the bone, the cartilage had disappeared; the inflammatory action in the bony lamella having evidently interfered with the nutrition of the cartilage, which receives its principal supply of nourishment through it, thus permitting its degeneration and subsequent absorption.

Dr. Wilks exhibited the follow specimens:—

1.—CARCINOMA OF THE STOMACH UNDERGOING A CURE.

Martin F——, aged sixty-five, was admitted, under Dr. Gull's care, into Guy's Hospital, on August 6th, 1856, and died November 24th, 1856. For a year before admission he had been suffering from vomiting and other gastric symptoms, accompanied by great emaciation, indicative of an obstruction at the pylorus. He was so weak that he was obliged to be placed in bed, and he appeared as if he could not live many days. A tumour was felt in the neighbourhood of the pylorus. He took but little food; and this, in part, remained down. After the expiration of three or four weeks, the vomiting was less urgent, so that he soon was able to pass several days without any sickness at all. After this his condition was tolerably uniform: he did not improve in general health, although he did not retrograde. The nourishment he took was small in quantity, but remained on his stomach; and at the same time the pyloric tumour was less distinct; in fact fresh visitors to his bedside were unable to detect it. He died at last rather suddenly.

The post-mortem examination showed a recent pleurisy as the immediate cause of death. There was no other disease in the body, except that of the stomach. Some large glands were seen occupying the lesser curvature, and the pylorus felt hard, and in fact constituted a tumour, owing to the neighbouring tissues being adherent to it. On opening the stomach, the little finger could be passed through the pylorus; the walls were not thicker than usual, although diseased; the coats were blended together; and amongst them was a yellow amorphous material, which probably was dead cancer. Two of the enlarged lymphatic glands in the lesser curvature, each of which was about the size of a walnut, contained a soft, semi-fluid material, such as is seen in decayed exudations, particularly cancer. In a third gland, some true encephaloid matter was found. This emitted a milky juice, and showed large nucleated cells beneath the microscope. In the midst of it, however, was some degenerating structure, as in the others, and sending out radiating streaks throughout, so that it was very clear that in a short space o time even this remnant of cancer would have disappeared; and then the question might have arisen as to the nature of the gastric disease from which this man had died. It was tolerably certain, then, that here was the case of a patient who had been suffering from cancer for the usual period, and with the usual symptoms; but being placed under different circumstances (to say nothing of medicine) the disease not only ceased to grow, but the morbid tissue already existing began to decay. A relief to the symptoms followed, and an unexpected prolongation of life. Should this have been due only to the man's feeble powers, which were unequal to the formation of new structures, it would show that cancer may sometimes be starved out.

2.—GREAT ENLARGEMENT OF THE HEART WITHOUT VALVULAR DISEASE.

Charles G——, aged forty-five, was admitted, under Dr. Wilks's care, into Guy's Hospital, in December, 1856. He had had good health until about three months before, when he began to experience oppression at the chest, and difficulty of breathing. These symptoms increased until swelling of the legs came on; and, on admission to the hospital, he had all the symptoms of severe cardiac disease. From the extreme fatness of the patient, the heart-sounds were with difficulty heard, but no bruit was audible, while the systolic sound was slightly double. Hæmoptysis came on, and symptoms of severe pulmonary apoplexy; and the man died about a month afterwards. The body presented the usual appearance of death by heart disease; while the heart itself was very much increased in size, weighing above a pound and a half; its form was normal, as the due proportion was kept between its several parts; but there was no valvular disease. The muscular structure was slightly fatty, and the coronary arteries were excessively diseased, as well also the small arteries in other parts of the body. This case is an example of a class continually met with, of great enlargement of the heart without valvular diseases. In the present instance the morbid condition of the small vessels may, in all probability, be considered as having been productive of an obstruction in the arterial system, the impediment to the circulation being at the periphery instead of at the trunk, and so leading to the usual consequences in the heart itself.

Mr. Curling read a paper on the cause of death of a woman with a

MALIGNANT TUMOUR OF THE THIGH,

for which amputation was performed at the hip-joint. In this case, which is recorded in the last volume of the Society's "Transactions," the amputation was performed on the 4th of March, 1856, and the woman died at Newbury on the 26th of December following, having survived the operation nearly ten months. The body was examined by Drs. Bunny and Palmer, who furnished Mr. Curling with the following particulars:—The heart, kidneys, and left lung were free from disease, and also the bronchial, mesenteric, and lumbar glands. The right side of the chest contained an immense cyst, filled with a substance described as medullary, the left lung being compressed by it quite flat. The liver was also displaced downwards and flattened, and was mottled in appearance. This organ and the liver were free from any abnormal deposit. A portion of the soft mass from the right side of the chest was carefully examined by Dr. A. Clark, who found it to consist of softened and degenerating lymph. There was no evidence of malignant disease. Dr. Curling remarked that the rare circumstance of a mass of carcinomatous matter occurring between the pleuræ, and especially the absence of secondary deposits in the lungs and other parts, induced him to concur in the conclusion that the large morbid mass in the chest was an unusual accumulation of lymph, and not a malignant growth—a conclusion which would afford encouragement for a repetition of so important an operation under like circumstances, since under more favourable conditions of health, a greater prolongation of life might have resulted.

Dr. Ogier Ward exhibited a

RUPTURE OF AN ANEURISM OF THE AORTA, INVOLVING THE RIGHT CORONARY ARTERY.

The patient, a labourer, aged thirty-eight, had never exhibited any symptoms of disease of the heart or great vessels. He was seized in bed, while passing urine in the recumbent posture, with extreme oppression, and died in about fifteen minutes. The chest only was examined. The lungs were healthy. The heart was rather enlarged, and its right cavities dilated. It was covered with fat, and was empty, and flattened by the pressure of a large clot, weighing half a pound, that completely enveloped it, and with about four ounces of bloody serum distended the pericardium. This hæmorrhage proceeded from a false aneurism at the root of the aorta, (which was generally dilated,) involving the orifice of the right coronary artery, and opening by a very small aperture into the pericardium. The size of the aperture perfectly explains the mode of death by compression of the heart, and why it did not immediately follow the rupture.

Mr. Part presented a specimen of

CANCEROUS ULCERATION OF THE COLON AT ITS HEPATIC FLEXURE,

in which the intestine was narrowed so as scarcely to admit the end of the little finger. The ascending colon was much distended with flatus, and its coats enormously hypertrophied. The peritoneal covering of the intestine had given way in two spots on the anterior surface, where adhesions had been contracted with the omentum. The small intestines were also greatly enlarged, and the coats hypertrophied and filled with feculent matter. The patient, a medical man, had been obliged to relinquish his duties from severe head affliction, which had left him. During the last year he had frequent attacks of colic, attended by a large, resonant, and very painful tumour on the right side of the abdomen, sometimes in the situation of the caput coli, and at others higher up. The attacks supervened upon a constipated condition of the bowels, and upon eating any indigestible substance.

Mr. Part likewise exhibited a case of

EXTENSIVE OSSEOUS DEPOSIT WITHIN THE MITRAL VALVE,

from a patient aged forty-two, who had died with hydrothorax on the left side and old adhesions on the right. She had had acute rheumatism twenty-five years before her death, and four years previously to death had had pleurisy.

Mr. Part also showed an interesting specimen of

ULCERATION OF THE ŒSOPHAGUS, COMMUNICATING WITH THE RIGHT BRONCHUS.

A gentleman aged sixty-two had had a severe hæmatemesis nine months before his death. About five months and a half after this attack, he had, while suffering from dyspeptic symptoms, with dysphagia, a second very severe seizure. This was followed by others, at shorter intervals. He gradually became more unable to swallow, until even fluids were, after five or six seconds, returned. Six weeks before death, he had bronchitis, after which blood was sometimes coughed up, and what food he took into his mouth was returned by coughing, mixed with frothy mucus and blood. He died on the 3rd of January. Examination after death showed the liver in a state of cirrhosis; the other abdominal viscera healthy. In the chest, a large quantity of offensive, ash-coloured pus was found in the right pleural cavity. At a point corresponding to the bifurcation of the trachea, the anterior wall of the œsophagus presented a rough, jagged ulcer, about two inches in length, and embracing two-thirds of the circumference of the tube. From this there was a communication with the right bronchus, and with an ulcer as large as a small walnut in the substance of the lung at its root. The coats of the aorta were untouched by the disease, which had spread to close proximity with the left bronchus.

Mr. John Wood exhibited

A PORTION OF SMALL INTESTINE PASSED PER ANUM, AFTER SYMPTOMS OF OBSTRUCTION.

This specimen was sent to Mr. Way, house-surgeon to King's College Hospital, by Mr. Ward, of Bodmin, in whose practice the case occurred. The patient was a married female, aged twenty-three, who, six months before, had become subject to severe pains in the loins and abdomen. The case had been mistaken, and treated for disease of the womb. When Mr. Ward saw her, she was much emaciated, with a quick, feeble and occasionally intermittent pulse, dry, furred tongue, and bowels apt to be, but not completely, constipated, with natural fæces, when acted upon. Micturition frequent and painful; urine slightly albuminous, and containing lithates. She vomited frequently matters not distinctly fæcal, but consisting apparently of partially-digested food; the vomiting generally coming on about an hour after eating. She had much griping pain in the bowels, with some pain on pressure over the region of the right kidney. No uterine disease, beyond a little thickening of the os, was detected. In November last, the patient passed the produced portion of small intestine. It is about six or seven inches long, and an inch and a half in diameter, with no valvulæ conniventes, or any evident Peyer's patches, and is probably from the upper part of the ilium. The mesentery is separated close to the gut, and one end of the latter considerably frayed off. The patient at first went on well, but since then has had a return of the symptoms of intestinal strangulation, with constant vomiting and scanty fluid dejections, arising possibly from contractions of the resulting cicatrix.

Dr. Cockle showed a

SACCULATING ANEURISM OF THE ASCENDING AORTA, FATAL BY RUPTURE INTO THE PERICARDIUM.

The subject was a robust man, about forty years of age. He had been ill about two years. His early symptoms were cardiac pain, extending up the aorta, and darting through the breast and down the arms; palpitation, with occasional cough and difficulty of lying upon the left side; gradual loss of weight and sallowness of complexion supervened. The only physical sign detected at this period was marked intensification of the second sound of the heart, to the right of the sternum. Some months subsequently, in addition to these phenomena, pulsating tumour, with systolic and diastolic impulse, was detected between the second and third right costal cartilages. Compared with the cardiac impulse, sensible retardation of the radial pulse was manifest. No fremitus was felt over the sac, but percussion yielded a dull note. The systolic sound of the heart, heard over the apex, was dull, as also over the sac; the second sound in this latter situation still retaining its unnatural accent. The cardiac impulse was slightly heaving. A few days before the sac gave way, the first sound over the sac changed from a dull sound into one accurately imitated by the crumpling of parchment. Death was instantaneous, in the midst of active duties. A sacculating aneurism of the aorta was found, commencing about one inch and a half above the arterial valves. The sac was bilocular; the common aperture large. One loculus ascended upwards and forwards, its outer surface becoming fused with the sternal periosteum, and partially eroding this bone at its right inner edge. The other loculus extended downwards and backwards, moulding itself upon the cava, and thus preventing serious pressure upon the vessel. From this lower loculus transverse rupture of three-quarters of an inch had suddenly occurred midway between the right auricular appendix and the reflexion of the pericardium, permitting the escape of about twenty-eight ounces of blood into the sac, and thus probably at once arresting the heart's action. The aorta was greatly dilated at its origin, and had undergone extensive degeneration of its inner and middle tissues. The chambers of the heart were in a state of fatty degeneration. Those of the left side were hypertrophied. The right lung was partially adherent to the sac. Traces of old pericarditis existed. The apex of the right lung presented tubercle in a state of obsolescence. This case is also interesting from the rarity of an aneurism with external pulsating tumour bursting into the pericardium. From Dr. Sibson's tables, it has only occurred once in 33 cases.

HARVEIAN SOCIETY.

On a Case of irregular intermittent, tetanic Catalepsy; with Remarks thereon.

Dr. Camps stated, that he did not make this communication to the Society as one of very great practical interest, for, happily, instances of cataleptic seizure are of rare occurrence; but rather with the view of eliciting, by discussion, some useful remarks on the physiology and pathology of muscular contraction. He expressed himself as well aware that, in by far the greater number of cases of catalepsy that have been observed and recorded, the condition of the voluntary muscular apparatus has been one of suppleness and plasticity, easily yielding to the efforts of bystanders, and but seldom, as in the present subject, one of rigid, tetanic contraction; altogether opposing itself to all attempts at movement by those about the patient. So much has this former condition been remarked in catalepsy, that some authorities contend strongly that the term catalepsy should not be applied thereto, unless the disease be marked by a supple, yielding condition of the voluntary muscles; still the author, on his part, perceived no reasonable objection to admitting the existence of a true cataleptic state, even though very rarely, as in the present case, the voluntary muscular apparatus should be in a condition of rigid, tetanic contraction. Can we witness any sight more surprising, and more calculated to excite our astonishment, than that of a fellow-creature suddenly seized with complete stupor, attended with total loss of power, as regards the voluntary muscular movements, whilst occupied in discharging the ordinary avocations of life, and yet, so far as these movements are concerned, yielding almost complete obedience to the efforts of a bystander; totally deprived, at least to all appearance, of the customary use of his or her senses, and at the same time presenting, in addition, an assemblage of psychological phenomena of the most remarkable description? Ordinarily, there need be no confusion between catalepsy and tetanus, except in those very rare cases, like the present, in which the catalepsy is attended with almost insurmountable rigidity. Commonly, the two diseases are sufficiently distinct, and diagnostically characterised; but, in the case under consideration, some of the symptoms of each disease were so intertwined or complicated to that extent as to justify the designation assigned to it—namely, as one of tetanic catalepsy. The subject of the present attack, or attacks of disorder, was a young female, fourteen years of age, small, and rather short in stature, delicate-looking, having a very pleasing countenance, the frontal development being very good, the hair of a brown colour, and the complexion being rather pale. The menstrual function had commenced with her, and had been repeated a few times: but had been altogether suspended from the commencement of this disorder, throughout which she expressed little or no desire for solid food of any description when she wakes up, whereas her desire for liquids is considerable; she passes a good deal of urine in her bed, and occasionally an alvine evacuation, small in quantity. During at least ten weeks previous to the cataleptic seizure, she was observed by those about her to be in an unhealthy state, unable to do her customary work, evidently low and depressed in her physical and mental condition; still, not confined to the house or to the bed, yet going about her ordinary duties in a sluggish manner. These duties consisted, for the most part, of household work, with some amount of out-of-doors field labour, as is common with young women living in agricultural districts. Dr. Camps stated, that he had had the opportunity of seeing this patient on two occasions—on Wednesday, and on the Friday following, for some length of time at each visit. The great distance from London at which this patient resided, altogether prevented more frequent and repeated visits to her. At his first visit, she was waking up from the cataleptic state, and some parts of the trunk of the body were slightly convulsed, but the extremities were in a state of most rigid contraction, utterly immovable; yet at the very instant at which she awoke from her apparent slumber, and recovered her consciousness, this rigid contraction disappeared, and the parts affected therewith assumed their natural condition. The author described the phenomena observed in the various parts of the body during the waking state, which lasted about half an hour or more. On awakening, her consciousness and intelligence were entire, she replied intelligibly to questions, answering in a low tone of voice, was evidently much exhausted, and said she felt very weak. She remained awake a little more than an hour, when she again relapsed into the cataleptic state, accompanied with tetanic rigidity of the extremities. At his second visit, which was two days subsequent to the first, he found the patient in a profound slumber, out of which she could not be aroused by any ordinary means adopted to wake a sleeping person. The extremities, and the lower part of the trunk, were in a state of excessive tetanoid contraction, resisting all reasonable efforts made to flex or extend them. The conditions of the surface of the body, of the pulse, the heart, and the lungs, as well as other symptoms observable, were detailed by the author. These attacks of irregular, intermittent, muscular contraction, attended with loss of consciousness, continued to affect this young patient for a period of upwards of twenty weeks, lasting commonly from one to two, or even three days, without her regaining her natural state, for varying intervals of sometimes not longer than half an hour or more. She has ultimately recovered her health, the cataleptic attacks having quite disappeared, although leaving her considerably weakened in body. Before her restoration to health, as Dr. Camps has been informed, the patient had several attacks of convulsions; and, on one occasion only, she was observed to be delirious, attended with some degree of violence.

NORTH LONDON MEDICAL SOCIETY.

Mr. NORMAN read a paper on

STRABISMUS, AND ITS CURE BY SURGICAL OPERATION.

Having given a short sketch of the history of the operation for strabismus as suggested by Stromeyer; of the zeal with which this practice was taken up in this country on its first introduction; of the great expectations that were formed of it, on the one hand, and the failures which were predicted on the other, and of which many undoubtedly happened,—the author contended that the latter were not such as to deter judicious surgeons from operating, but only to direct attention to their causes and their removal or avoidance. At first, nothing was known of the pathology of the affection, and not much had been added by actual demonstration of the state of the muscles of the eye. The operation rested upon a certain amount of analogy between strabismus and club-foot. The former, however, was almost always, if not always, a post-partum occurrence, and the consequence of disease; club-foot was produced in utero, and a result of imperfect development of the fœtus. In strabismus, the individual action of the muscles was perfect, the associated ones only were not; in club-foot, the regular and proper movements and position of parts could not be, under any circumstances, effected by the muscles. In most cases of strabismus, there was no paralysis; nevertheless it was necessary, before undertaking operation, to be assured of this, as also that the affection was permanent—not maintained by any existing disease of the head or other part, nor a natural remedy for an opacity of the cornea. The specific objections that might be urged against the operation were—1. That it failed altogether. 2. It made matters worse, causing too great prominence, with eversion in internal, and inversion in external, squints. 3. Inflammation and suppuration of the wound. 4. The formation of sprouting granulations or excrescences. 5. Inflammation and suppuration of the globe. Failure to effect a change was due to want of proper caution in selecting and rejecting cases, or to the non-division of the distorting muscle. The new displacements were due to dividing more than the offending muscle, and other like causes generally avoidable. The inflammatory sequelæ might be almost uniformly escaped by avoiding rude and unnecessary proceedings in operating. Sub-conjunctival division of the muscle would probably never be attended by any of these consequences except the first—namely, imperfect division of the muscle and failure. Many efforts had been made to bring operative procedures to perfection in these cases. It was an important point gained when it became clearly known that no good was to be gained by dividing the oblique muscles and other muscles and parts not concerned in the case. Sub-conjunctival sections, from M. Guérin's first suggestion to the present time, had not been productive of much good, chiefly from the difficulty found in adapting a knife to the work. This desideratum, it was hoped, would be supplied by Mr. Holthouse, who had bestowed much attention on the subject. Mr. Critchett's sub-conjunctival method was then described, in the language of the inventor's pamphlet on the subject; and Mr. Norman gave the histories of two cases in which he had lately made trial of that method, with a success that had quite satisfied himself and the patients. The first of these was in a girl of fifteen who had squinted nine years, and could not make out the letters of a large type *singly* without difficulty, and could positively not count two letters together; and in addition to this was unable to estimate the distance of objects correctly, so that, in placing things on a table, she was apt to let them fall to the ground. The operation resulted in a very great improvement of the person, so that in a fortnight no squint nor sign of operation remained, and the sight was much benefited, and is now perfect as in the other eye. The second was in a boy of eleven years, whose squint had existed eight years, and was attended with almost complete want of sight. In this case, the operation was followed by great improvement of the person, and by a partial, but progressive, increase of visual power, although not to be compared with that of the former case. This method of operating (with scissors) was not liable to some of the objections existing to the other sub-conjunctival methods, but was decidedly more difficult than the ordinary operation. It was entitled to a full trial by those who have the opportunity, although, in the opinion of the author, the old method first practised by Lucas, Duffin, and others, taking care to avoid known errors, would be in most suitable cases a very successful and beneficial operation. These operations, now not much talked of, were well deserving to be borne in mind.

ROYAL INSTITUTION, MANCHESTER.

MEDICAL SECTION.

Operation for imperforate anus, in a case in which the rectum terminated in the bladder, and the meconium passed by the urethra; subsequent formation of a very large alvo-urinary calculus in the rectum: its removal and chemical analysis; the patient now nearly thirty-six years of age, being perfectly free from every inconvenience except the occasional passage of some urine per anum, and there being no difficulty in controlling the fæces, &c.

Mr. James Miller, of Manchester, drew the attention of the Medical Section to the case of J. M——, upon whom he operated in 1821 for imperforate anus. Some of the particulars of this case were communicated by Mr. Miller (through Mr. Liston) in 1829, to the *Edinburgh Medical and Surgical Journal.* Mr. Miller delivered Mrs. M—— of a healthy male infant, in January, 1821. In thirty hours after birth it was discovered that the child had neither an anus nor the slightest mark of its situation. The meconium was passing per urethram. Mr. Miller made an incision in the usual situation of the anus, about an inch in length and as much in depth; and then he thrust in a large trocar used for paracentesis abdominis, with which at the second attempt the rectum was penetrated, and a free passage given to the fæces. The trocar had to be pushed up to the hilt. The usual difficulties were experienced in keeping open the aperture, and it had to be re-opened with a bistoury ten times before the child was eight months old. When he began to walk, he had a great propensity to eat cinders, which stuck in the rectum, and rendered frequent operations necessary. In the last operation for that purpose it was requisite to turn the edge of the bistoury forwards to divide the stricture; in doing this, the bladder was slightly wounded, and ever since a portion of the urine has been discharged by the anus, though the greater part has come regularly by the urethra. Under the use of laxatives and frequent clysters, he throve as other boys. When he was about four years old, his mother was sensible that some hard substance occasionally opposed the introduction of the clyster-pipe; but through fear of further operations being necessary, she concealed this knowledge from Mr. Miller, and allowed the difficulty to increase during the three following years, till at length there was complete obstruction of the bowels, with excessive suffering. It was discovered that a calculous concretion of very large size was impacted in the rectum. The anus being so small as to admit of a goose-quill only, Mr. Miller enlarged it till he could pass his finger, when he found that the concretion was so large as to almost fill the hollow of the sacrum. Being also of a stony hardness, it was obvious that it could be brought away only in fragments. A drill was accordingly constructed, with a few drill-bits, to make a bore of from a quarter to five-eighths of an inch in diameter; and in order to fix the stone whilst being drilled a pair of forceps with separate blades was made, which were screwed together after they had been introduced. The anus was then enlarged by incisions as far backwards and forwards as possible, and the stone drilled in different directions until considerable openings were made. A pair of strong polypus forceps was then thrust into the openings, and the blades being forcibly separated by extending the handles, the calculus gave way, and was separated into three pieces, each of which had, in its turn, to be drilled and broken in the same way before it could be extracted. The whole operation occupied not less than two hours and three-quarters. Every particle of sand was washed out of the cavity formed by the concretion, and the patient was put to bed. In ten days he was able to go out, and the anus was reduced to its natural dimensions, the power of the sphincter ani being complete. The stone was of the size of a very large turkey's egg, very hard and rough on its external texture, and seemingly composed of earthy matters. The interior, however, was found to be of the texture and appearance of bowel concretions, and had formed around a hard nucleus. A portion of it was sent to Professor Christison for examination, the details of whose analysis are given in the *Edinburgh Medical and Surgical Journal*, vol. xxxi. p. 65, along with a more detailed narrative of the early portion of this remarkable case. The nucleus was a rolled pebble of primitive greenstone, about the size of a large pea. The next stratum consisted of the fibrils of the pencil of the oats, interspersed with a few amorphous fragments of the earthy matter of the outer crust. The outer crust consisted of a little animal matter, a trace of carbonate of lime, but chiefly of the phosphate of magnesia and ammonia; "the matter of fusible calculus being probably thrown down from the urine, when its acidity was lost in its mingling with the alkaline contents of the rectum." Dr. Christison refers to a calculus of similar components, mentioned by Dr. Marcet ("On Calculous Disorders," 2nd edit., p. 135), who says it was about the size of a walnut, and that it was found in the rectum of an infant born with an imperforated anus, but in whom there appeared to be a communication between the rectum and the urinary bladder. Mr. Miller left Methven and settled in Manchester many years ago, and had lost sight of his patient, when hearing of two fatal cases of imperforate anus (in one of which the anus terminated in the bladder), which were not operated on, from a conviction that such a proceeding would be useless, he made inquiries respecting his former patient, and found that he was alive. He had an interview with him within the last three months. He enjoys robust health, has had hardly any complaint since the stone was extracted, and is now an active and energetic farmer in the neighbourhood of Dundee. When he was about twelve years of age, he says he passed with his alvine evacuations a second stone, which was smooth, and about the size of a walnut; he passed it without pain, but it has been lost. In answer to inquiries regarding the functions of the anus and bladder, the replies are most conclusive as to his perfect control over the fæces and flatus. His fæces are natural in form and appearance, and he believes that no one can have a more perfect control over the anus.

This case is spoken of by Mr. S. Cooper ("Duty of Surgery," p. 210) as a "highly interesting" one. The interest must be greatly increased by the addition of the subsequent history of the patient, and the case must be classed amongst the most interesting in the records of surgery. Without operative interference, the patient would inevitably have died. But the great interest of the case consists in the answer it affords to the question, "When there is no trace of the anus externally, does the sphincter exist; and, if so, can its functions be preserved by the artificial opening?" (*British and Foreign Review*, vol. xviii. p. 455.) It proves that under these most unpromising circumstances the child may not only be rescued from death, but practically be perfectly cured; and it holds out hope that surgery may be eminently successful in cases which at the present day are often considered to be quite hopeless.

ARMY MEDICAL AND SURGICAL SOCIETY.

DR. ANDREW SMITH IN THE CHAIR.

STAFF-SURGEON MACGRIGOR read a paper

ON RECRUITING STATISTICS,

founded on the Annual Returns received from the Recruiting Districts of Great Britain and Ireland for the last thirteen years; with a short account of the present condition of Recruiting, and some remarks on recent Instructions in connexion with the Registers in use in the above districts. After some introductory remarks, Mr. Macgrigor stated that primary recruiting was much in abeyance at the present time, and that it was destined to be still further depressed in proportion to the success of volunteering in the class of supernumeraries of certain portions of the army. He showed tables illustrative of all these points. In fact, the whole paper was based on a profusion of tables having reference to the subjects usually included in the consideration of vital statistics. The tables illustrated such questions as the following—viz. the proportion of rejections to candidates for admission into the army; the same according to districts; the proportions of admissions to districts; the proportion according to occupation; native countries; population of such country; intelligence; causes of rejection; age, height, weight, &c. The general substance may be strictly expressed in the following summary:—The general proportion of rejections to admissions, examined for eleven years before the war, was 34 per cent., or one-third. During the two years of the war, it was 23 per cent. Since the peace it has again risen to 34 per cent. By the kindness of Dr. Balfour, an opportunity is afforded of comparing these proportions with that of a period of ten years immediately before that contemplated in the paper; by which it appears that 30 per cent. was the average from 1832 to 1841. The same kindness enables us to compare the English results with that of the French army from 1831 to 1843, and, curious to say, the exemptions from serving in the ranks, amounted to 30 per cent. also. Thus the two services, although acting from opposite principles, arrive at nearly the same ratio. Amongst the exemptions in the French service, over and above the preceding, are enumerated 8 per cent. for under size. Now the limit for under size, in France, is 5 feet 1 inch; while, in England, it is 5 feet 4 inches; and all that are under that height, are not admissible for the medical examination. During two years of the war, it was estimated by the tables submitted, that more than one-half of the recruits of the British army were between the heights of 5 feet 6 inches and 5 feet 4 inches, for the rank and file; and for two special corps, viz., the Medical Staff Corps and Land Transport Corps, candidates were eligible as low as 5 feet 2 inches. The effect of the wider field of selection was to secure a greater proportion of recruits than was customary when the limits were stricter. It appeared from a table produced that 73 per cent., or nearly three-quarters of the French army was under the standard height of the British. In the latter, the joint effect of the reduction of the standard of height, and the increase of the age from 25 to 30 years, and even in certain cases to 35 years and upwards, was to increase the productiveness of the examination by 11 per cent. during the war period. With reference to age, the paper showed that one-seventh of the whole of the recruits were over 25 years of age. In 1854 the proportion of lads of 21 years and under was 71 per cent.; but in consequence of the judicious relaxations subsequently made, the proportion in the second year fell to 40 per cent., while that between 21 and 30 years rose to 50 per cent. There were 10 per cent. whose ages ranged from 30 to 52. These were, however, special cases: old soldiers re-enlisting; armourers; musicians; artizans; land-transport men and storekeepers, &c. Mr. Macgrigor pointed out many interesting facts connected with the peculiarities of the different recruiting districts as recruiting fields. London was the most productive, as its proportion was 26 per cent. of the whole number enlisted, or about a quarter, while the other districts seldom averaged more than one-eighth. With reference to the native countries of recruits, he showed that Scotland and Ireland, relatively to their populations, supplied a greater number of soldiers than England; but that during the war the latter appeared to have aroused herself in an unusual degree, having risen from 313 per million to 1523 per million as against Scotland, for the same periods, when the proportions were respectively 1160 and 2513. With reference to intelligence, it appeared that out of the recruits passed at the London district during the year 1856, 83 per cent. were able to read, and 78 per cent. to write, more or less. With reference to weights, a table was produced, showing the weight of 468 recruits admitted into the service, according to ages, and according to ages and heights. The average weight of the whole was 134 lb. 5 oz., or 9 st. 8 lb. 5 oz. Comparing this weight with that of a regiment of Bengal Native Infantry, and of Madras Native Infantry, the advantage was greatly in favour of our recruits. The latter were, respectively, 129 lb., or 9 st. 3 lb., and 111 lb., or under 8 stone. The weights of recruits according to ages advanced progressively, as follows:—18 years, 129 lb.; 19 years, 132 lb.; 20 years, 135 lb,; 21 years, 137 lb.; 22 years, 139·33lb.; 23 years, 139·73lb.; 24 years, 135 lb.; 25 years, 141 lb. We have no further space to refer to Mr. Macgrigor's remarks on the recent instructions issued to the staff of recruiting districts; they may briefly be stated to have a tendency to render the registers more complete than hitherto. Nor can we even glance at the observations made on points of practical importance relative to the medical examination of recruits in general; suffice it to say, they met with the general concurrence of the members present.

Dr. Balfour, alluding to the paper which had just been read, remarked that the author had omitted to notice the relative results of primary and secondary inspections. No distinct record appears to have been kept of such rejections, which, in his opinion, rendered some of the statistics imperfect and of little value. In Dublin, from 1826 to 1837, the proportion of secondary inspections was 341 out of every 1000; in Edinburgh, from 1833 to 1837, from 155 per 1000; London, same period, 184 in three months; Belfast, 329 out of every 1000, (which accounts for Irish districts being so productive); the same of Cork. The proportion of rejected amongst French conscripts in thirteen years, was the same as ours—30 per cent. Selected, as the result of 1400 measurements of the chest, an average of 32 and a fraction.

Mr. Mouat could not pretend to the experience on this subject of either the able and industrious author of this paper, or the gentleman who followed him; but, as Mr. Macgrigor had referred to the class of recruits, age, height, &c., sent out to the East during the war period, he might be permitted to state that the results of the late campaign, although the army only marched a few miles, had confirmed the opinion that men of large size are ordinarily the first to fail under fatigue; and medical officers knew, from observation, that they commonly suffer from diseases in greater proportion than others. These are facts which can hardly be disputed. Mr. Macgrigor had drawn particular attention to the weight and bulk of recruits. The French, it is well known, are below the medium standard heights of Europe, and inferior in bulk; yet no one can fail to have observed the comparative ease with which these small men carried weights under which the stalwart British broke down. It is very clear that height has not so much to do with strength as is supposed; and the practical inference to be deduced is, that men of low or middle stature are best adapted for the purposes of war. But there is a still more important inference to be drawn, and to which Mr. Macgrigor has referred—viz. the age at which men are best fitted for useful soldiers. More than half a century ago, the great Napoleon wrote to the National Assembly complaining of the raw material of his army, saying, "I want *men*, not *boys*, who only encumber the line of march, and fill the hospitals." The same circumstance was painfully experienced by ourselves in the Crimea, 71 per cent. of the war levies being mere youths, who, as well as the old men (witness the Ambulance Corps), broke down and filled our hospitals. The only remedy for this evil, as our army is constituted, that he (Mr. Mouat) could see, is the permanent embodiment of the militia, or a portion of them, from which to draw ready-made, efficient soldiers, when war breaks out. So far as his experience went, twenty-two was the best age for a soldier to commence his active duties, and thirty-five the maximum. Any one who has served in the tropics must have observed the injurious effects of climate on young recruits, who ought never to be sent on either tropical or field service until fully developed, and thoroughly fit for all their duties. With reference to capacity of chest, alluded to by Dr. Balfour, he found in one regiment (the 9th Foot) the mean average to be, at eighteen, about 33 inches; he had observed as low as 28, and as high as 43, inches. The speaker possessed no experience of the spirometer.

Dr. F. Reid was of opinion that, notwithstanding the exception that had been taken thereto, the returns of rejections were, on the whole, tolerably accurate, one district balancing another; and that it was worthy of remark, that, on the extended observation of a series of years, the proportion of rejected to fit men in the aggregate of all the districts was very nearly the same year after year. It has been next to impossible to arrive at strict accuracy in respect of recruits rejected in the country, as no returns had been received from private practitioners of men rejected by them. Dr. Reid made some observations relative to the fallacies attaching to the use of the spirometer in the examination of recruits, very different results being shown therewith by the stout but awkward countryman as contrasted with the sharp townsman, who had the knack of using the instrument to advantage. He further alluded to some other interesting points connected with the subject of recruiting, especially the amount of intelligence and education in different classes of recruits, &c.

Mr. Wyatt could quite corroborate the remarks made by Dr. Reid regarding the fallacious results obtained from the first application of the spirometer in young recruits when first subjected to medical inspection. In his opinion, until the subject was educated to its use, no true indication could be afforded regarding the actual capacity of the chest. The author's paper was most interesting. If materials could be obtained from Chatham, most important deductions would be arrived at, regarding the age and previous employment best suited for making effective soldiers. His experience of service in the Crimea was, that no man should be sent out on active service under twenty-four years of age.

ON THE "READY METHOD" IN CASES OF NARCOTIC POISONING, AND OF CHOKING:

By Marshall Hall, M.D. F.R.S., &c.

To the Editor of The Lancet.

I.

Sir,—Many years ago a lady drove to my door (in Manchester-square) from Avenue-road, in the utmost consternation, having shortly before swallowed an ounce and a half of Battley's solution of opium, in mistake for a senna draught.

I instantly applied the stomach-pump with my own hands, and her life was saved!

I have often asked myself the question—What should I have done had I not had the stomach-pump in all readiness, and had not been able to induce vomiting? Until this hour, I knew not how satisfactorily to answer this fearful question.

There are two stages in narcotic poisoning, in each of which the "Ready Method" is, in the absence of the stomach-pump, our *hope*.

The *first* is, that in which our object is to remove the poison from the stomach by the induction of *vomiting*, but in which, from the degree of narcotism, all ordinary remedies fail.

The *second*, that in which our object and hope are, to continue respiration, *until* the elimination of the poison from the system may be accomplished.

In the former case, the patient should be laid on a table, with the head projecting beyond its edge, if possible; if not, on the floor; and, being placed on the *side*, the finger of one person is to be introduced into the *fauces*, whilst the body is briskly and repeatedly rolled into the *prone* position by another.

If there be the slightest degree ("*scintillula*") of excito-motor power remaining, the *cardia*, already somewhat relaxed perhaps from torpor, will be still further relaxed, physiologically, whilst the *glottis*, the safety-valve of the trachea, is closed, and the *thorax* and *abdomen* being compressed by a force equal to the superincumbent weight of the body, to which further force may be added by means of pressure made along the spine, *mechanical* vomiting will be produced, and the poison expelled.

This desirable effect will be produced in cases in which the narcotic torpor is too great to admit of exciting the very complex act of *physiological* vomiting.

But let us now suppose that the narcotism is too deep for the success of this manœuvre,—that the *second* case is before us. Then our hope consists in continuing respiratory movements until the poison is eliminated from the blood and the general system. In one word, our hope is in the "Ready Method," such as I have recommended it for asphyxia!

I suppose that volition has ceased, and that the patient can no longer be made to move or walk about; that all good physiological respiration has ceased, or is about to cease; then, one hope still remains,—postural respiration,—and the other measures comprised in the "Ready Method in Asphyxia;" and I need not say, how long and perseveringly this method should be continued.

II.

Death in choking, is the result of a diastaltic spasmodic closure of the glottis.

Nothing can be done in this stage of the accident, except, 1, to endeavour, by introducing the finger into the fauces, to induce vomiting; 2, to introduce something *like a bougie* into the œsophagus, (a firm scroll of linen being the readiest;) or, 3, to adopt a measure, which I adopted on an emergency, with immediate success, some years ago.

A little boy, eating some fowl in haste, attempted to swallow too large a morsel, and was choked; I ran to him, placed him between my knees, one knee (the right) pressing firmly on the stomach, the other on the back; I then placed one hand (the left) on the back part of the thorax, whilst I gave a firm blow with the other on the sternum. In an instant I had the joy of seeing the morsel of chicken expelled with force to a considerable distance; and all was safe!

But supposing all these efforts to fail. What is then to be done?

In the midst of the asphyxia induced by the closure of the glottis, excito-motor power fails, and the larynx is no longer spasmodically closed; and now the "Ready Method" may be adopted, with the effect of sustaining life, until such a bougie is made as shall be effectual in pushing down the morsel of food or other object in the pharynx or œsophagus.

A *firm* scroll of cotton or linen, when imbued with grease, made from a sheet, a window-blind, or curtain, may then be made, not in too great haste, and be boldly passed into the œsophagus.

The morsel of food is generally lodged in the pharynx, or *upper* part of the œsophagus, and, when found lower down, ceases to excite reflex action of the larynx; and breathing is, therefore, possible.

A thin bent tallow-candle, or a piece of firmish *cord*, (taken from the window-frame,) might answer the purpose of the bougie.

The "Ready Method" procures us the *time* necessary for obtaining or preparing *any* of these means, and for giving full directions to the assistants. In performing it, a little brisk movement may be adopted in pronation, and in making dorsal pressure, which may, if not at first, eventually, dislodge the foreign body.

I need scarcely suggest that this last measure should also be enforced in cases of a foreign body inhaled into the larynx both *before* and *after* tracheotomy, with the addition of a firm blow, with the open hand, on the back.

January, 1857.

P.S.—I have been informed of the case of a patient, dying from the influence of *chloroform*, in one of the London hospitals, having been rescued by the "Ready Method." Surely it should be published in all its details.

"THE MARSHALL HALL METHOD" OF TREATING THE ASPHYXIATED.

To the Editor of THE LANCET.

SIR,—The plan proposed by Dr. Marshall Hall for the recovery of persons asphyxiated by drowning, is so valuable, that I think no opportunity ought to be lost by the members of our profession in disseminating the process advised amongst their friends, neighbours, and patients. I therefore propose, with your permission, as the type is probably up at your printer's, that copies should be struck off, and supplied to your subscribers at a low rate per hundred, that they may carry out at once so valuable a piece of information. I shall be much obliged by being allowed to put my name down for 500, to distribute gratuitously amongst the dwellers along the canal running through Victoria-park and to the park-keepers.

Some weeks since, I explained this method orally to several persons who are frequently engaged with the drags on Sir G. Duckett's and the Regent's Canals, but a printed form could be kept in the pocket, and had recourse to if the memory failed.

I have the honour to remain, Sir, yours obediently, E. MOORE, M.D., M.R.C.S.

December, 1856.

*** We shall, at an early period, adopt the suggestion Dr. Moore has made.—ED. L.

To the Editor of THE LANCET.

SIR,—It is my opinion that every good cause should be supported, and if you think the accompanying remarks worth a corner in your journal, have the goodness to insert them; if not, I beg you will without ceremony consign them to oblivion.

I have, with much pleasure and satisfaction, read in THE LANCET, the mode of treating cases of asphyxia by Dr. Marshall Hall, who, in my opinion, is one of the greatest men of the day, and certainly the best pathologist and physiologist, and whose name must be esteemed by all men of the present generation, and venerated by all future ages.

I have been in practice since 1822, and an almost constant reader of THE LANCET from its beginning. During my term of practice, more than 3500 cases of midwifery have passed under my immediate care, and an average number of cases of asphyxia. I have for years past abandoned in disgust the warm bath and the tracheal tube, fancying I did no good, but, I am now convinced, some harm, and employed instead the following means—namely, clearing the fauces and nostrils of as much viscid mucus as I could, blowing on the child's face, sprinkling it with cold water, applying friction to the chest, and briskly using pronation and the reverse position, and by these means have been almost invariably successful in restoring animation.

It is only a few days since that I was engaged with a tedious labour of nearly forty-eight hours' duration. The child was born asphyxiated, and the funis coiled round its neck. The nurse, who was a stranger to me and my mode of treating such cases, called out for hot water, as "a bath" would be required. I, however, applied my usual remedies of clearing, blowing, sprinkling, rubbing, and turning, and respiration soon began; and then the nurse exclaimed again, "Lor, sir, I never seed the like of that afore; I thought he was dead!"

I have sometimes allowed a little blood to flow (from two to six drachms) from the divided funis, and I think with some advantage in particular cases.

I am, Sir, your obedient servant,
RICHARD WEED.

Cheshunt, Herts, Dec. 1856.

P.S.—I never in my life had the pleasure of speaking to Dr. Marshall Hall, nor, to my knowledge, did I ever see him.

News Items, Medical Facts, &c.

SCANZONI'S METHOD OF INDUCING PREMATURE LABOUR.—This method consists of the application of an exhausting apparatus to the breasts. Dr. Spaeth, of Vienna, tried it lately, but was obliged finally to douche the os uteri, in order to excite labour. The exhausting method succeeded, however, four times in eight cases, which have from time to time been published. No doubt Scanzoni's plan is inferior to puncture, douche, plugging the vagina, or the prepared sponge; but it has the advantage of offering a chance of success, without making the patient run the risk of any direct uterine lesion.

M. Barthez (Physician to the Ste. Eugénie Hospital, and author with M. Rilliet, of a valuable work on the Diseases of Children) has just been appointed physician to to the Prince Imperial.

KING'S COLLEGE HOSPITAL.—Income of past year, £5587; expenditure, £7858. The number of patients exceeded that of last year by 2005.

ROYAL ORTHOPÆDIC HOSPITAL.—Number of patients admitted during 1856, 1553. Receipts for the year, £4022 15*s.* 1*d.*

THE LANCET FOR 1857.

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A Course of Lectures
ON THE
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OF
OBSTETRICS.

BY W. TYLER SMITH, M.D.,

PHYSICIAN-ACCOUCHEUR TO ST. MARY'S HOSPITAL, AND LECTURER ON MIDWIFERY AND THE DISEASES OF WOMEN IN ST. MARY'S HOSPITAL MEDICAL SCHOOL.

LECTURE XLIII.

THE INDUCTION OF PREMATURE LABOUR.

GENTLEMEN—Under a variety of circumstances of present or threatened danger, it becomes right and necessary to induce the premature expulsion of the ovum, by artificial means, with a view to the safety of the Mother or Child, or Both.

Cases in which the operation of inducing premature Labour may be required, admit of division into three classes:—

I. In which the operation is called for before the date of the viability of the fœtus, in consequence of diseased states of the mother, and in which the ovum has to be sacrificed in order to preserve the life of the Mother from great risk.

II. In which the operation is required for the preservation of both Mother and Child.

III. In which it is performed to save the life of the Child, in conditions which do not involve any question of danger to the mother.

As one of the most important principles in obstetrics, it may be stated, that all conditions which render the death of the mother imminent, unless the contents of the uterus are evacuated, call for the performance of this operation. At the present time, the operation under these circumstances has been extended to cases of excessive exhaustion from continued and irrepressible vomiting; to cases of distortion of the pelvis from exostosis, rickets, or mollities ossium, where the deformity is so excessive as to render the birth of a living child impossible. It has been resorted to in cases of ovarian and fibrous tumours within the pelvis, when labour at a later period would hazard inflammation and softening of the tumours; it has been performed in cases of cancer of the uterus; it has been practised in cases of disease of the heart in which urgent and dangerous dyspnœa, or irregularity of the circulation, has supervened; it has, been performed in cases of albuminuria with general anasarca, which has refused to yield to treatment, and brought the patient into a state of dangerous anæmia and debility; and in cases of hæmorrhage from the bowels threatening death. It has been employed in chorea arising from pregnancy, and also in mania occurring during gestation; and it has been used in cases of dropsy of the amnion, when the fluid has increased to such an extent as to seriously interfere with the circulation and respiration of the mother. In any other contingency besides those named, in which danger exists, and in which the peril is materially increased by the continuance of pregnancy, the induction of premature labour is justifiable; but, it should be borne in mind, that it ought not to be performed in any case before the time at which the child becomes viable, unless there is the certainty of present or future danger to the mother from the further continuance of gestation. But in the cases above mentioned, in which the life of the mother is in positive danger, or will be placed in inevitable danger, by the continuance of pregnancy up to the time at which the child becomes viable, it is held right to sacrifice the fœtus by inducing premature labour, and, as a necessary converse, wrong to neglect the performance of this operation. Many of the cases of the Cæsarian operation in which the lives of the mothers have been sacrificed, have been cases in which abortion or premature labour might have been induced, and the hazard of almost certain death avoided.

Some have maintained that a certain limit should be placed to the number of times in which the operation for the induction of premature labour should be performed in the same woman, in cases where pelvic deformity exists to such an extent as to render the birth of a living child *per vias naturales* impossible. It has been affirmed that women have no right to go on placing themselves in the position to require the sacrifice of many living children in succession, but that they ought rather themselves to submit to the Cæsarian section. Denman had scruples on this point, and in the present day Dr. Radford has distinguished himself for his able advocacy of the right of the fœtus, as opposed to that of the mother, in such cases. My own strong impression, I may say conviction, is, however, that we must deal with the woman pregnant for the twentieth time as we would in her first pregnancy, and that in all cases our clear and paramount duty is to save the woman. No doubt every right-minded professional man would urge upon such women the propriety of living apart from their husbands, or of not marrying at all; but when pregnancy actually exists, considering that the mother is the life-giver; and that in the case of the married woman pregnancy may be forced upon her by her husband; remembering, too, the immortal interests of the mother, as compared with the unborn fœtus; and having in view the enormous danger to the mother from the Cæsarian section, and the large proportion even of children lost by this operation,—I am of opinion that the mind of the accoucheur should never hesitate between the induction of premature labour and the Cæsarian section, whenever the former operation is practicable, and that the question of whether the patient is primiparous or multiparous should not enter into his consideration. This I believe to be the general opinion amongst medical men, and it is that of every English divine I have conversed with on the subject.

It is an important element, in reference to this operation, to decide the age at which a fœtus becomes Viable, or in a condition to live after its expulsion from the uterus. The fœtus is not viable—that is, cannot maintain an independent existence, until towards the end of the seventh month; and any circumstances calling for the induction of premature labour before this time, must necessarily involve great risk of sacrificing the life of the ovum. Cases occur in which children, born at an earlier time than this, survive; but these are rare exceptions. Even at the seventh month they are kept alive with difficulty. The state of the heart, as regards development, the feebleness with which the fœtus sucks before this time, the ready failure of animal heat, and the inability to bear the movements necessary to cleansing and nursing, render it almost impossible to rear the fœtus born at an earlier period.

In the second class of cases, the induction of premature labour is called for between the seventh month and the end of gestation, and the operation is performed with a view to the safety of both mother and child. The chief condition under which this occurs is such an amount of pelvic distortion as would admit of the passage of a child at the end of the seventh or eighth month, but which at the full term would call for craniotomy, or, if labour were allowed to go on without assistance, would endanger the life of the mother as well as the child. Some of the morbid states already referred to, as calling in certain cases for delivery before the end of the seventh month, may not in others reach a dangerous extent until after the time when the child becomes viable. This is particularly the case with respect to mania, chorea, fibrous and ovarian tumours, disease of the heart and lungs, albuminuria, dropsy of the amnion, hæmorrhages, and other causes of dangerous debility, which may admit of waiting until after the viability of the child, but if allowed to proceed after that time would place the woman in great danger in labour at the full term. In this second class of cases, it sometimes happens that either the mother or the child may be in the greatest danger of the two, but generally both parent and offspring are delivered from risk by the induction of artificial delivery.

In the third class of cases, the operation is called for entirely on account of the fœtus, under circumstances attended by danger to the ovum, but which involve no unusual risk to the mother. In these cases, of course, the operation should only be resorted to after the commencement of viability to the child, and as late in pregnancy as is compatible with the safety of the fœtus. It is found in practice that some women are delivered at or near the full term many times in succession of still-born children, there being every evidence that the children have died during or shortly before parturition. Such children are frequently thin, and below the average weight of the fœtus at the time of birth, but in other cases they are plump and well formed. In some cases of this kind, the child is born alive, but is so feeble as to survive only a short time. The cause of this state of things depends upon various diseased conditions of the placenta, such as inflammation, fatty degeneration, syphilitic disease, or calcareous deposits. In these circumstances, the changes which naturally take place in the placenta as a deciduous organ seem to occur more early, and to a greater extent than is natural. As consequences, the nutrition and respiration of the fœtus is interfered with, and the child either dies in utero, or survives its birth but a short time. In other cases, the connection between the uterus and the placenta is so slight, that the first pains of labour separate the two organs, and hæmorrhage during labour, with the speedy death of the fœtus, ensues. The remedy for such conditions is the induction of premature labour, at a time prior to that at which the death of the fœtus has usually occurred. Frequently, the mother is aware, by the gradual diminution of the movement of the fœtus, or by the occasional occurrence of convulsive movements, of the approaching death of the child. The diagnosis of such cases is greatly aided by auscultation. The heart of the child either exceeds or falls below the normal standard of frequency in the latter part of pregnancy, and auscultation should be resorted to daily in such cases to ascertain the condition of the fœtal circulation. When premature delivery is effected, the child is born alive, and survives in many cases in which its preservation could be effected in no other manner. The intra-uterine marasmus dependent upon disease of the placenta generally commences at the latter part of pregnancy. In cases in which children are still-born, without any difficulties connected with the labour itself, the placenta and membranes ought carefully to be examined, as affording data for treatment in subsequent pregnancies, and for the performance of this operation. The placenta will, in these cases, frequently be found the subject of fatty degeneration, or the result of inflammation, or the decidual surface will be studded with calcareous matter.

Many methods of inducing premature labour have been practised. The earliest plan adopted —that which followed the great consultation of accoucheurs in 1756, exactly a century ago—was that of puncturing the membranes with a quill, sharpened at the point. Afterwards, a stilette, or a stiletted catheter, was used. The objections to this form of operation are, that by the evacuation of the waters at the commencement of labour, the chances of saving the fœtus are considerably diminished. It is also dangerous to perform it in the early months of pregnancy, particularly in primiparæ, owing to the undeveloped state of the os and cervix uteri, and fatal results have followed its adoption when performed in this way in the latter months. The dilatation of the os uteri by tents, the separation of the membranes from the os and cervix uteri by a catheter, a large bougie, or the uterine sound, the administration of the ergot of rye, preferred by Dr. Ramsbotham, the use of electricity, the application of cupping-glasses to the mammæ, as practised by Scanzoni, and by other means. But in all these applications, a considerable time often elapses before effective uterine contractions can be excited, and in some cases the uterus refuses to obey the calls of such stimuli.

A method superior to all others, where the safety of the child especially is an object, is that of the water-douche, said to have been practised in Holland, but introduced in a systematic manner into practice, and methodized, by the late Professor Kiwisch, of Wurzburgh, a man of rare obstetric genius. If a stream of hot or cold water be directed against, or, still better, within the os uteri, at intervals of three or four hours, for the space of ten minutes or a quarter of an hour at each application, labour is certainly and speedily brought on. The water may be made, by means of a syphon and reservoir, to descend upon the uterus from a height, or it may be forced into the os uteri by a common injecting apparatus, or an O'Beirne's tube. Kiwisch explained the *modus operandi* of the douche on the supposition that it caused swelling of the parts by the imbibition of fluid, and separation of the decidua from the uterus. Probably the reflex and peristaltic actions of the uterus are also excited, and I have found the douche more efficacious when warm and cold water have been injected alternately, than when either warm or cold has been applied alone. The great superiority of this method consists in the fact that premature expulsion, excited through its means, is more certain, and it is a closer resemblance to natural labour than can be obtained in any other mode. There is no risk of any injury to the os uteri, and the membranes remain unruptured, during the stage of dilatation, just as in ordinary labour. Hence it happens that the os uteri is dilated by the influence of fluid pressure, and the fœtus escapes compression in the early part of labour. These circumstances are attended by such obvious advantages, that in my opinion no one would be justified in puncturing the membranes in a case in which labour was brought on to save the mother and the child, or in circumstances where the child alone was in danger. The membranes certainly cannot be ruptured as a preliminary to the induction of labour without diminishing the chances of saving the child. I repeat, the use of the douche possesses great advantages in all cases in which the safety of the child is an object. In cases where there is no possibility of giving birth to a viable child, the stiletted catheter or other means may be resorted to, but even then the douche promises the greatest safety to the mother, except under certain circumstances presently to be mentioned.

It remains to say a few words as to the *Time* at which the operation has to be performed, and as to the methods of operating to be preferred in the earlier and later stages of gestation. When the premature expulsion of the ovum is requisite in the middle months of pregnancy, or at any time between the fourth and seventh month, purely with reference to the safety of the mother, the use of the douche is, I believe, the best method. In the early months, while the cervix uteri is as yet undeveloped, and the ovum is contained in the cavity of the fundus uteri, the douche cannot be relied on. I have been consulted in one case of marasmus from excessive vomiting during early pregnancy, in which death occurred before the douche could be brought to bear. In these cases, the plan I have adopted is, to introduce the uterine sound into the uterus, and turn it round once or twice, an operation which, according to my experience, never fails to induce the expulsion of the ovum; and is, I believe, attended by little risk, when carefully performed. After the third or fourth month, and before the end of the seventh, the membranes may be punctured with the stiletted catheter. At this time there is no expectation of saving the child, and the size of the head is not such as to render the retention of the liquor amnii of any consequence. Before the fifth month it is dangerous to use this instrument.

For a considerable time, the operation was not considered justifiable in primiparous women. It was considered that at least the experience of one labour was necessary in order to judge of the propriety of inducing premature labour in any given case. At present, however, if a woman pregnant for the first time passes from any cause into imminent peril of death, and this peril is increased or caused by the existence of pregnancy, it is considered perfectly justifiable to obtain the expulsion of the contents of the uterus. Again, if a woman in her first pregnancy is found to be so deformed as to render the birth of a living child impossible, it is held to be quite right to induce premature labour in the early or middle months of pregnancy, and not to wait for the danger of her first delivery, and the performance of craniotomy. In cases of doubtful capacity of the pelvis, or when the state of the pelvis has not been ascertained before the time of the first labour, but in which craniotomy has been necessary, or in which children have been still-born and the mother placed in danger, from decided disproportion between the head and the pelvis, the practitioner should always insist upon the necessity of inducing premature labour in future pregnancies. In this way the lives of multitudes of children and of many mothers might doubtless be saved. A great responsibility is incurred by allowing women with moderate contraction of the pelvis to go on to the full time in successive pregnancies, and thus sacrifice successive children. It is probable that the practice of the induction of premature labour will be extended from a greater knowledge or increasing appreciation of its importance, and also from a real increase in the cases calling for it. Amongst the manufacturing population deformities of the pelvis are probably on the increase, and amongst the educated classes, the size of the fœtal head, and delicacy of constitution, will form impediments to labour in an increased number of cases. It is amongst the educated classes that the greatest number of still births occur, and that the greater suffering and danger to both mother and child are met with. At the present time there is no point of progress in the obstetric art of equal importance with the extension of the induction of premature labour, in cases calling for the operation.

The extension of the induction of premature labour in cases where mothers have, in successive births, produced still-born children, is one of the great means to which we must look for the diminution of the mortality amongst children at birth. Every man engaged in the special or general practice of midwifery must have met with cases in which healthy well-formed women have produced a considerable number of still-born children in successive births, or in which, out of large families, only one or two have survived the birth. It is to such cases that the induction of premature labour is peculiarly applicable, and in which it is at the present time but little practised. In cases of this kind, the chances of saving the child may be greatly increased by the operation, without risk to the mother. A vast amount of prejudice has, however, to be got over, before this subject will be placed on its proper footing. I saw, a year or two ago, a case with Dr. Trouncer, in which premature labour was brought on after the mother had given birth to several dead children in succession; on this occasion a live child was born, but in the next pregnancy the patient declined the operation, and another still-birth occurred. Similar instances must constantly happen. In a matter of this kind, it is only slowly that a great improvement can be carried out. It is computed, in a letter by Dr. Farr to the Registrar-general, on the "Causes of Death in England in 1854," that the proportion of still-born to live-born children is about three dead to every one hundred born living. The total number of births in England and Wales in 1852 was computed to be 646,134. Of these, 624,012 were born alive, and 22,122 were estimated to have been still-born. In France, in the same year, the number of children still-born, or dying before the registration of birth, was 68,267. This is an immense number of children, the great proportion of whom are lost during, or immediately before, the act of parturition. There can be no doubt that the number might be greatly diminished by the extension of the practice of the induction of premature delivery in proper cases. Carrying the mind from England and France, to the other countries of the civilised world, the mass of infant life, to the saving of which obstetric science must address itself by these and other means, is enormous in amount. Every man must regret the necessity which sometimes occurs for sacrificing the ovum before it has become viable; but no operation can be performed with greater pleasure than that which rescues the infant, or the mother and the infant, from the risk of death.

LECTURE XLIV.

TURNING.

THE operation of Turning is called for under a variety of circumstances, some of which arise out of the nature of the presentation or the state of the fœtus, and others from the condition of the mother. In some cases the operation is performed with a view to the safety of the mother alone; in others, it is the safety of the child which chiefly calls for the operation; and in a third class of cases it is resorted to both on account of the mother and the child. It is necessary to consider the several conditions calling for the operation, as the method of executing it varies considerably, according to the state of the mother and the child. There are two chief kinds of turning or version,—one termed Podalic version, in which the feet or a single foot has to be brought down; the other, Cephalic version, in which the head is brought into the pelvis, some other part having presented previously. But this latter is only practicable or attempted in rare cases; and by turning, the operation of bringing down the feet, or a foot, is understood. In some cases, what is termed Pelvic version is recommended, in which the case is converted into a breech presentation. Cephalic and Pelvic version will be adverted to hereafter.

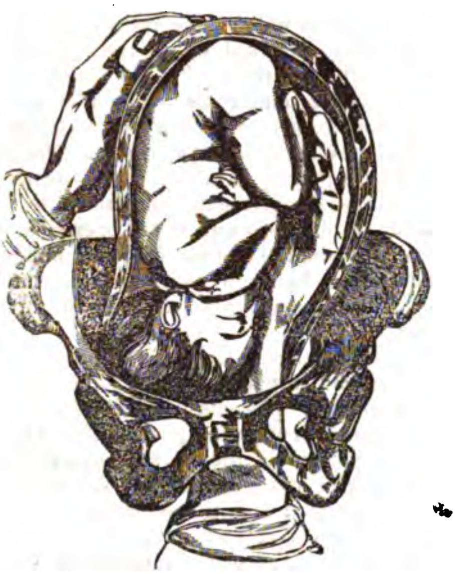
Turning, or podalic version, is required in cases of hand, arm, or shoulder presentation, when, except in the rare occurrence of spontaneous evolution, labour can never be allowed to proceed without great danger to the mother and child. It is also sometimes resorted to in prolapsus of the umbilical cord. It is called for in cases of placenta prævia, as offering a much better chance of life to the child than the detachment and removal of the placenta, and, except in extreme cases, being quite as safe for the mother. It has to be resorted to in a considerable number of circumstances in which the patient is in danger from the continuance of labour, but in which craniotomy cannot or ought not to be performed; such as hæmorrhage occurring during the course of labour, and irrepressible by rupture of the membranes or other means; convulsions; rupture of the uterus and escape of the child into the abdomen; excessive debility; fainting; and dangerous vomiting. The balance of evidence would also appear to be in favour of the performance of this operation in some cases of moderately contracted pelvis, in which craniotomy would be required in delivery by the hand. But the application of turning to such conditions is one of the agitated questions of the day, which requires the sober and dispassionate consideration of all who are interested in the establishment and advance of obstetrics. In some cases of twins, in which the second child presents with the head, but where no progress is made, and where the head is too high to admit of the application of the forceps, turning becomes necessary and proper. Turning has been also recommended in cases where the mother has died during labour; but the mortality of children after turning, in such cases, is much greater than in the Cæsarian section.

Turning is a serious operation, both as regards the contingencies in which it is required, and as regards the direct consequences of the procedure to the mother and child. Some of the conditions in which it is called for, as convulsions, rupture of the uterus, and placenta prævia, are themselves highly dangerous. In the performance of the operation also, uterine inflammation may be excited, the uterus may be ruptured or perforated, and the shock of the operation is fatal in some cases. The danger to the child arises from the compression of the funis during the passage of the thorax and head, and the extension of the neck of the child in passing through the pelvis or the ostium vaginæ. According to the statistical researches of Dr. Fleetwood Churchill, in 419 cases in which the result to the mother was noted, 29 deaths occurred, or 1 in 14½; in 792 cases in which the result to the child is stated, 294 children were born dead, or rather more than 1 in 3. This mortality, especially as regards the mother, must, however, be divided between the operation itself, and the dangerous contingencies in which it is sometimes required.

The hand to be used in turning is a matter worthy of consideration. Two things weigh here; first, the hand which most easily adapts itself to the different conditions in which turning is required; the second, the hand with which the operator possesses most skill and power of manipulation. It is best, as far as possible, to accustom ourselves to the use of both hands in obstetric practice, so as to acquire a readiness in the use of the left hand as well as the right; but for persons who are awkward or unpractised with the left hand, the greater mechanical facilities for its introduction, in some cases, will not at all compensate for the greater power and freedom possessed by the right hand and arm. One thing should be especially borne in mind—namely, to use at the commencement that hand with which we shall be able to complete the operation, so as not to fall upon the course of being obliged to withdraw one hand in order to substitute the other, after the operation has been in part performed.

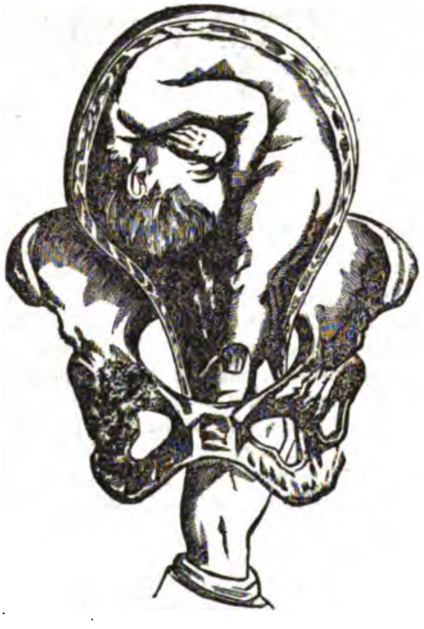
In placenta prævia, the hand to be introduced should depend in part upon the situation of the separation of the placenta from the os and cervix uteri, or, in cases of partial placental presentation, upon the portion of the os and cervix uteri to which the placenta is attached. When the placenta is separated from the anterior or left border of the os and cervix uteri, or when it is attached only to the posterior or right margin of the uterine aperture, the right hand is most convenient. When the opposite state of things is met with—that is, when the placenta is detached or wanting, posteriorly, or on the right side of the os and cervix, the left hand is most readily introduced into the uterine cavity. A chief object, in such cases, is to pass the hand through the os with as little detachment of the placenta as possible. When the operation is called for by some condition of the mother, and the head presents, the mechanical facilities of passing the hand and reaching the feet are modified by the situation of the vertex. It is easier to pass the hand over the face than the vertex, and the feet of the child are usually found on the same side as the face. Thus, in the first and fourth positions, the left, and in the second and third positions, the right, hand would be most convenient. When the head is known to present, but the special presentation cannot be made out, it must be taken for granted that the head presents in the first position, that presentation occurring in from 70 to 80 per cent. of all head presentations. But when the head is so high as not to be reached for diagnosis, it matters comparatively little which hand may be used. In turning in presentations of the upper extremity, the hand to be used should depend on the circumstance of whether the anterior part of the child be towards the abdomen or the spine of the mother. In the first position, in arm cases, when the abdomen of the child is towards the spine of the mother, the left hand is most convenient. In the second position, in arm cases, the abdomen of the child is towards the abdomen of the mother, and the right hand of the accoucheur should be employed. Turning, when the right hand can be most readily employed—that is, when the abdomen of the child and the extremities are directed towards the abdomen of the mother, is more easy than when the fœtal abdomen is turned towards the spine, on account of the greater depth of the pelvis posteriorly as compared with the anterior, and the less distance the hand has to traverse to reach the uterus in front. In all cases of doubt, therefore, or when the facilities of passing the hand in any direction are equal, the right should be preferred, both on account of the greater ease with which it reaches the uterus, and the greater skill in manipulation possessed by almost all persons with the right hand.

FIG. 153.



Introduction of the hand into the uterus, and grasping the feet of the child in vertex presentation.

FIG. 154.



Withdrawal of the hand, and bringing down the foot, in vertex presentation.

As a preliminary to Turning, and to all operations within the pelvis, the bladder and the bowels should be emptied. The position of the patient varies in different schools and with different teachers. In France and America, many of the best authorities prefer to have the woman placed on her back. In this country, the ordinary obstetric position on the left side is generally preferred; but the nates of the patient are brought to the edge of the bed. The accoucheur should not only bare his arm, but take off his coat, and having introduced some lard into the vagina, and well greased the arm and the back of the hand which it is intended to use, the operation may be commenced. The first difficulty is at the ostium vaginæ, and the introduction of the hand into the vagina is sometimes the most painful part of the whole process. The fingers and thumb should be put together in a conoidal shape, and gently introduced during a recession between the pains, in the direction of the axis of the outlet of the pelvis. When the thickest part of the hand is passing the sphincter vaginæ, the patient, if sensible, generally cries out, and this cry facilitates the passing of the hand by relaxing the sphincter. When the hand is fairly in the vagina, and the os externum embraces the wrist, there is little suffering; and, at this stage of the procedure, a short pause is advisable, during which the accoucheur may make a more complete examination than he could with the finger alone, and decide as to the particular direction in which the hand should be carried forward through the pelvis. When the arm or a shoulder presents, there is a difficulty in introducing the hand into the vagina, not only from the state of the os externum, but from the shortness of the unoccupied portion of the vagina, and it requires some management to pass the hand into the vagina in such a manner as to retain the fingers in a position admitting of effective manipulation upon the os uteri. While one hand is passing through the os uteri, the other should be laid upon the abdomen, so as to steady the uterus, and prevent its being pushed upwards. Cases have occurred in which the posterior wall has been lacerated, or the posterior lips of the os separated from the vagina by awkward and forcible attempts under these circumstances. The direction of the hand should, on entering the os uteri, be altered so as to follow as nearly as possible the axis of the middle strait, and subsequently the inlet, of the pelvis.

The further steps of the operation must greatly depend on the state of the os uteri. When the os is fully dilated, and the membranes unruptured, turning is easily effected. The hand should be passed into the uterus between the membranes and the uterine parietes, the palm of the hand being directed towards the abdomen of the fœtus. No attempts at pushing the hand forward are to be made during the presence of the pain; but if pains come on at the time of the passage of the hand, it is to be held perfectly still, and slightly hollowed, so as to adapt itself to the walls of the uterus. Care must, however, be taken not to exert pressure upon the umbilical cord, and particularly its insertion into the abdomen, by the hand. This point should be defended, at the same time that as little pressure as possible is exerted upon the uterine parietes. With the os uteri dilated, the waters undischarged, and the uterus in that comparatively quiescent state which obtains before the commencement of the expulsive stage, the whole operation up to this point is comparatively easy, and need not occupy more than a few minutes. The membranes have now to be ruptured by pinching them between the fingers; but little water is discharged owing to the engagement of the os uteri by the wrist or arm. Sometimes, the knee or foot of the fœtus can be felt through the membranes before their rupture, at others, these parts are best made out after the hand of the accoucheur has passed through the membranes. If we could choose the time at which turning should be performed, we should select the moment at which the os uteri had fully dilated, but the membranes had been unruptured, or we should seek the time at which the membranes had broken, but before the violent contractions of the second stage of labour had commenced. Most frequently, however, we have no choice in the matter, but are obliged to act after the membranes have been ruptured, and the uterus has contracted upon the fœtus.

In some rare instances of transverse presentation, it is possible to raise the arm or shoulder and bring down the head, effecting what is called Cephalic version. In this operation we have to retrace the steps by which the presentation of the head is commonly converted into transverse presentations. The head of the child has to be manipulated by the hand engaged in utero, so as to bring it to the pelvic brim, with the vertex directed towards one of the sacro-iliac articulations. After this, the case is left to Nature. Cephalic version is very much aided by external manipulation, particularly when the uterus and abdominal walls are sufficiently thin to allow of the different parts of the fœtus being readily felt. Cases are even recorded, by Martin of Jena and others, in which rectification and alteration of mal-presentations have been effected by external manipulation alone. In pelvic version the nates are brought down, but this is a very difficult procedure on account of the lubricity of the parts; and it is not of very much greater value, when effected, than Podalic version, when one foot only is brought down.

When the os uteri is only partially dilated, the passage of the hand into the uterus is a more difficult procedure. It is held that when the os is dilated to the extent of a crown-piece, or two or three fingers can be introduced, either with or without the rupture of the membranes, the hand may, with care, be passed in, so as to turn. The os must be very gently and slowly dilated by separating the fingers, and urging them on in the cone shape used in passing the ostium vaginæ, the pressure being exerted in the direction of the inlet of the pelvis. Care must be taken to support the uterus externally, and not to push the uterus upwards to such an extent as to separate it from the vagina. When the os has been fairly passed by the hand, the anterior surface of the fœtus must be reached in the way already described.

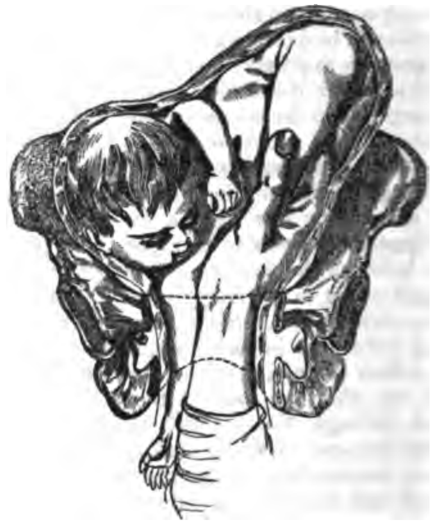
The most difficult of all cases are those cases of transverse presentation in which the diagnosis has not been made out early in labour, or in which the case, from some circumstance or other, has gone on a long time unrelieved. Here the arm or shoulder is found low down in the pelvis, occupying the vagina; the presenting part is firmly embraced or grasped by the os uteri; the waters have long flowed away; the uterus has closed with great energy on the fœtus, and is reduced to the smallest possible compass consistent with the retention of the placenta and the non-presenting portions of the fœtus. Thus, every step is a laborious matter. It is difficult to introduce the hand into the vagina, and still more so to pass the hand, or part of the hand, into the uterus and raise the presenting parts of the child. It is only by slow degrees that the difficulties can be surmounted so far as to allow the lower extremities of the child to be reached. There are, however, some circumstances which, to a certain extent, counterbalance these unfavourable conditions. In transverse cases the shape of the uterus is considerably modified. Its greatest diameter is the transverse instead of the perpendicular, and consequently the lower extremities of the child are much nearer the os uteri than in vertex cases, or in arm cases where the waters have not escaped. It is therefore unnecessary, and indeed impossible, to pass the hand far into the uterus, and frequently a foot or arm can be brought down by the introduction of one or two fingers only within the os uteri, the bulk of the hand remaining in the vagina. I learnt this manipulation from Dr. Robert Lee, and I have several times been able to turn with only two or three fingers in the uterus. This is a great advantage, as the introduction of the whole hand under such circumstances increases the risk of lacerating or bruising the uterus, or causing the organ to rend itself by the violence of its own contractions.

Formerly the dilatation of the os uteri in cases of constriction, or the relaxation of the uterine spasm in cases where the waters had been long expelled, and the pain produced by the operation, were difficult and anxious matters. Bleeding to syncope, the hot bath, emetic tartar, and opiates, were relied on for these purposes. Chloroform is, I believe, preferable to any of these means, unless, indeed, bleeding should be required by some constitutional condition of the patient. The inhalation of chloroform relaxes contraction of the os uteri, the ostium vaginæ, and body of the uterus, in addition to the immunity from pain which it produces. I am confident I have delivered, by turning, under chloroform, in cases of arm presentation, where it would have been impossible to have turned without its use.

The mode of seizing the fœtus, and completing the process of version, varies in the different circumstances in which turning is required. When we turn to save the mother from imminent danger, the operation should be performed as quickly as possible, due regard being had to the fact that a too rapid extraction of the child increases the shock of the operation. Under these circumstances, the two feet of the child should, if possible, be brought down, and gentle traction should be exerted, particularly during the pains, until delivery is effected in the manner described when speaking of footling presentations. When the waters are retained, it is astonishing what a small amount of traction will effect the version of the child. Simply holding one foot, or both feet, in the lower part of the uterus, while the organ is exerting its moulding and contractile efforts on the rest of the child, will often cause the head or shoulder to rise, and the feet to descend. Holding on upon the feet or foot is all that should be attempted during the pains. Any traction that may be required should be exerted while the uterus remains passive, until the foot or feet descend through the os uteri. When the object in turning is not the dangerous state of the mother, but the condition of the child, the operation should be performed as leisurely as possible until pressure comes to be exerted on the umbilical cord. With this view, one foot, rather than two, should be brought down. We have seen that in cases where the breech presents the mortality is 1 in 8½, while in cases in which the feet present the mortality is 1 in 2½. In bringing down one foot, we assimilate the case to breech presentation. In a case in which one foot is brought down, and the other extremity remains flexed upon the abdomen, the circumference of the presenting part is from 11 to 12½ inches; when both feet come down, the circumference of the breech is from 10 to 11½ inches. It is therefore safer to bring down one foot in turning when the operation is performed with reference to the fœtus, as the greater dilatation of the soft parts by the pelvic portion of the child favours the descent of the head and the defence of the umbilical cord from pressure. When it can be reached before the foot, there is an advantage in bringing down the knee, as the axis of the trunk and thigh is less than the axis of the trunk and the whole extremities of the child.

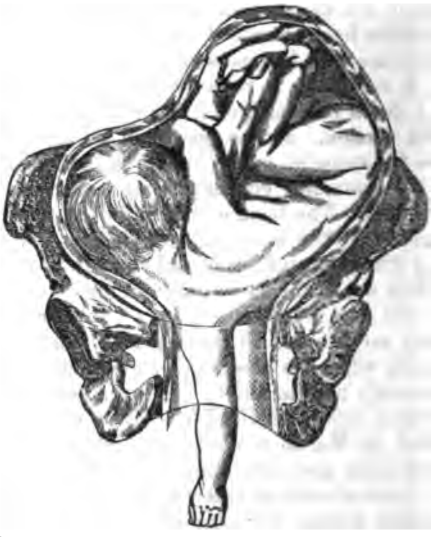
In arm presentations, the knee or foot of the side opposite to the extremity presenting should, if possible, be brought down, as, when this is the case, version is more easily performed than when the foot or knee of the same side is grasped. To effect this, the hand of the accoucheur should be passed up along the inner side of the arm presenting, which will guide it to the anterior surface of the child. If the foot is below the knee, it should be brought down. The rules for distinguishing between the foot and hand, or knee and elbow, have already been dwelt on, when the various presentations of these parts were under consideration. In the case of turning on account of pelvic deformity, the object being to bring the head through the pelvis as quickly as is consistent with the safety of the child, both feet should be brought down if possible. When one foot is perceived, and can be brought through the os externum, a tape or handkerchief should be put round it to enable the accoucheur to hold it more securely. The foot is slippery, particularly if the child is covered with caseous matter, and the fœtus has a tendency to be drawn upwards on the subsidence of every pain. In delivery, the same treatment is to be adopted as that directed in knee or footling cases, only that greater expedition in effecting delivery must be followed according to

FIG. 155.



Turning in transverse presentation, in the abdomino-anterior position, with the right hand.

FIG. 156.

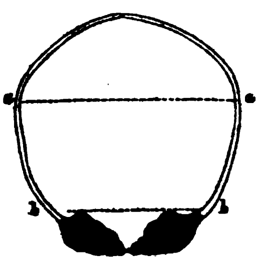


Turning in transverse presentation, in the abdomino-posterior position, with the left hand.

the special exigencies of the child or the mother. The forceps ought always to be in readiness to complete, if necessary, the delivery of the head. After all cases of turning the patient should be carefully watched, with a view to the prevention of local inflammation.

I have already referred to the question of the performance of Turning, in the place of Craniotomy, in cases of contracted pelvis; and the subject is of so much importance that I shall endeavour to give as succinctly as possible an outline of Dr. Simpson's theory and practice upon this point. I would premise, that seventy or eighty years ago, turning in cases of deformed pelvis was a recognised practice, and is treated of at considerable length by Denman and other writers of that period, as a recognised mode of procedure; so that Dr. Simpson's proposal to turn in the present day, is a revival of the practice which had fallen into disuse rather than an innovation. Numerous cases of deformed pelvis are on record in which turning has been practised from choice, or in which the feet or nates have presented, and delivery has been accomplished without material injury to the mother; and these cases naturally suggest the establishment of the operation as a rule of practice under certain conditions. The following points in the anatomy of the fœtal head with reference to difficult parturition, are strongly insisted upon by Dr. Simpson. The bi-parietal diameter exceeds the bi-mastoid diameters by from half an inch to three quarters of an inch. In delivering by turning, the bi-mastoid, and, in vertex cases, the bi-parietal diameter first engages in the pelvis. The great question is, can the fœtal head, under all the circumstances of pelvic deformity, pass through most readily with the bi-parietal, or the bi-mastoid diameter first?

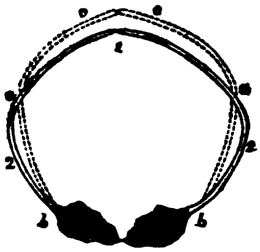
Fig. 157.



Section of fœtal skull. *a*, *á*, Bi-parietal; *b*, *b*, Bi-mastoid diameter.

The bi-mastoid diameter is comparatively incompressible, in order to defend the medulla oblongata, the *nodus vitalis* of fœtal as well as of adult life; but the bi-parietal diameter may be compressed to a great extent without destroying the fœtus. In children born alive, it has been found considerably flattened, indented, or even fractured, in cases of deformed pelvis with a diminution of the conjugate diameter. The bi-parietal diameter varies in the natural fœtal cranium from 3½ to 4 inches, but it may be compressed to 2½ or 3 inches, for the short time during which the head may be drawn through the pelvis, without necessarily destroying the child. Denman was of opinion that the living fœtal head would bear a greater amount of compression than this. In delivery by turning, the child is drawn through the pelvic opening; in vertex delivery, it is pushed through from behind; and there are many instances in mechanics, in which bodies can be drawn through openings which no amount of force applied from behind would make them pass. In the case of the fœtal head and the deformed pelvis, Dr. Simpson believes that in vertex labour, when the vertex does not readily enter the pelvis, it is bulged or spurzed out laterally, and the bi-parietal diameter increased, by the pressure of the body of the child under the influence of uterine contraction. This is illustrated by the following figure:—

Fig. 158.



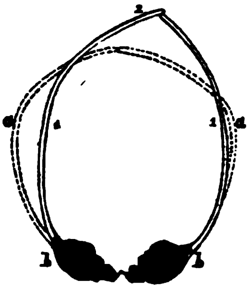
Section of fœtal skull. The dotted line *a a*, *b b*, *c c*, represents the normal outline. 1, 2 2, represents the alteration produced by the compression described.

When the bi-mastoid diameter first comes into the pelvis, a different form of compression occurs. When the vertex descends first, it is the base of the cone formed by the fœtal head which first attempts to pass through. When the bi-mastoid diameter presents at the pelvic brim, it is the apex of the cone represented by a transverse section which passes first. The tendency of the bi-parietal diameter is to increase in vertex cases, when the vertex does not readily enter the brim; but when the bi-mastoid diameter enters the pelvis first, and is drawn through it by traction applied to the fœtal extremities, the larger or bi-parietal diameter is readily compressed to a considerable extent. This point has already been referred to, and admits of easy demonstration.

Other mechanical arrangements facilitate the descent of the head face foremost, as compared with the descent of the vertex. The bi-temporal diameter is usually from three to five-eighths of an inch less than the bi-parietal. In vertex presentations, the chin of the child is bent upon the sternum; the result is that the vertex and the bi-parietal portion of the head enters the pelvic strait first, and with the bi-parietal or larger diameter opposed to the conjugate diameter. In delivery by turning, the chin is extended, and the bi-temporal diameter descends first and nearer to the conjugate diameter, the bi-parietal being received in the lateral and widest part of the pelvis. The subjoined diagram exhibits the passage of the head though a deformed pelvis in turning.

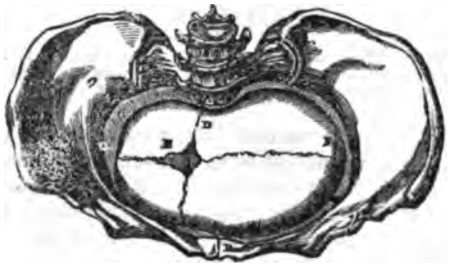
These are the chief anatomical considerations relative to the proposed mode of practice. Dr. Simpson insists greatly upon the fact that it can be performed early, and is in this respect favourably contrasted with craniotomy, which must be performed late, and after the woman has been subjected to the perils of protracted labour. The patient also escapes the risk of injuries to the vagina and soft parts by instruments. The fœtus, it is well known, is in the state of an amphibious animal, and bears a short interruption to the utero-placental circulation without a necessarily fatal result; and Dr. Simpson believes that the cord may generally be guarded to some extent by being placed at the sides of the pelvis, in the position affording most room. It is in deformed pelvis with diminished antero-posterior diameter, or oblique deformity, that turning promises the greatest chance of safety to the mother and child, and not in the contractions of the transverse diameter. The limits of the deformity within which a living child may pass in turning have yet to be determined. Dr. Fleetwood Churchill puts it at two inches and six-eighths; but as the limit for the passage by the vertex is three inches and a quarter, a considerable latitude for the operation of turning exists. The objections to the measure are—the injuries which may be done to the mother; the difficulty of diagnosing the proper amount of deformity; and the difficulty of performing craniotomy when turning has been tried, in cases where the head cannot be delivered without reduction. As regards the injuries done to the mother, the cases on record do not show them; and it was the opinion of Denman that craniotomy in such cases was almost as easy as in cervex presentations, so that there is every reason to hope that with the knowledge we now possess of the condition of the fœtus by auscultation, and the advantages afforded by chloroform in such cases, turning will be performed, and a chance of safety afforded to the child, where craniotomy was considered the only resource. It is probable that the practice will hereafter be combined with the induction of premature labour in cases of pelvic deformity, where the conjugate diameter is even below two inches and six-eighths.

FIG. 159.



Section of fœtal skull. *a a*, *b b*, normal outline, 1 1, 2, outline of skull, as compressed in turning.

FIG. 160.



Deformed pelvis and compressed fœtal head. A, promontory of sacrum; B, symphisis pubis; C, space between forehead and ilium; D, depression in fœtal head; E F, anterior and posterior fontanelles.

LECTURE XLV.

THE FORCEPS.

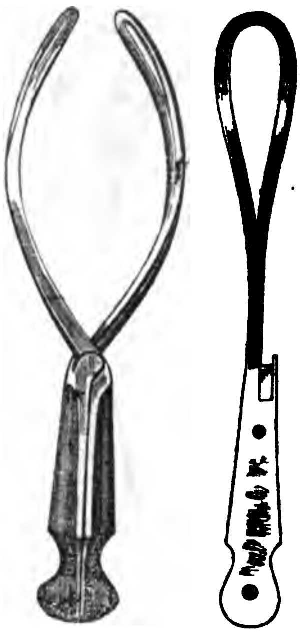
GENTLEMEN,—Chapman, who first published to the world an account of the Forceps, calls it a "noble instrument;" and well might he do so, since it has probably saved more lives than any mechanical invention ever discovered. We owe the production of the forceps to Dr. Paul Chamberlen, who, with his three sons, kept the matter a secret for their own benefit during sixty or seventy years. It has now been in use upwards of two centuries, and though all agree as to its incalculable utility, there are some points respecting its formation and application upon which obstetricians are not yet entirely agreed. The first intimation of the discovery of the forceps was in 1647, by Dr. Peter Chamberlen, who gives the merit of the discovery to his father, Dr. Paul Chamberlen. In 1762, another son, Dr. Hugh Chamberlen, refers to the discovery as one to which his father and brothers had, "by God's blessing, and their own industry, attained to." The invention gradually became known, but it was not until 1733 that Chapman published a description and plate of the instrument. Measureless censure has been heaped upon the Chamberlens for their conduct in keeping the discovery of the forceps a secret. It is a great principle that no invention and discovery in an art like medicine should be withheld from the common good; but in condemning the Chamberlens, we must remember the age and fashion of the time in which they lived, when monopolies in various branches of trade and manufacture were held by the nobility, and even by royalty itself. We have evidence that at least one of the Chamberlens, Dr. Hugh, could suffer for conscience' sake, in the fact of his flight into Holland on account of espousing the cause of James II.

The short, straight forceps, termed Denman's forceps, chiefly in use in this country at the present day, is essentially the same instrument as that devised by the Chamberlens. The chief alterations and improvements made in it were the work of Smellie. The most perfect Chamberlen forceps had the handles bent in the form of hooks; for these Smellie substituted handles of wood. As Chamberlen left the joint, it resembled that of the common scissors, but without the pivot, the joint being made secure by a piece of tape or cord passed through a hole in each blade, and wound round them after they were put in apposition. In another specimen of the Chamberlen forceps, one blade is provided with a fixed pivot, to receive upon it the other blade and secure it. This is called in the present day the German lock, and has been improved upon in the instrument called Naëgelé's forceps. In lieu of these somewhat clumsy arrangements, Chapman invented the lock now in use.

This forceps, known as the straight forceps, consists of two separate blades, which are introduced separately, and which, by locking, are converted into one instrument. These are called the left hand or male blade, and the right hand or female blade. Each blade consists of a handle, a shank, and the curved portion or clam, which adapts itself to the side of the head of the child. The ordinary straight forceps now described has but this one curve, which may be called the Cranial Curve, as its special relation is to the head of the child. The length of the curved portion of the blade is about eight inches. The curved portion of each clam contains a fenestrum or opening fitted to receive the parietal protuberance, and, when both blades are in apposition, to allow the fœtal head to protrude somewhat through the sides of the instrument. The length of the whole instrument is about twelve inches. The distance between the most curved portions of the clam is about three inches. When the handles are in perfect apposition, the extremities of the two clams are about an inch apart. The length of each fenestrum is about three inches. When the instrument is in action upon the head, the extremities of the handles are about one inch asunder, and not close together as when the instrument is held in the hand. Its whole weight should not exceed twelve ounces. Of course, it is necessary that the steel should be of the finest temper, to resist the force which has to be exerted in some cases of extraction of the head. The edges are bevelled off in every direction, to prevent injury either to the child or the mother. It was formerly the fashion to cover the forceps with wash-leather, this being done with a view to make the appearance of the instrument less martial, and to present a soft surface to the maternal passages and the fœtal head. Some advocate this proceeding at the present day, but the great majority avoid it, on account of the increased bulk and difficulty of passing the blades, and also the risk of carrying the infection of gonorrhœa or syphilis. The infectious principle of contagious fever ought, perhaps, still more to be held in dread. Some instruments are now sold covered with gutta percha, but nothing is so perfectly clean or so easy of introduction as the naked metal, anointed with oil, lard, or glycerine.

This instrument is calculated for the delivery of the head from the lower and also from the middle strait of the pelvis, or when it has in great part emerged from the pelvic canal, and is resting on the perinæum. The circumstances which all admit to call for the use of the forceps, are the arrest of the head in the pelvis or at its outlet, from entire failure of the pains, or such a condition of the mother or the child as would place either or both in a state of risk in the event of delivery not being completed. Its most common use is in cases of suspended labour from inactivity or exhaustion of the uterus. The forceps should never be used when the child is known to be dead, so that auscultation will require to be carefully practised in all cases where the necessity for the use of the forceps is anticipated. As compared with craniotomy, it may be said to be a child's operation, but the forceps is not entirely, as Dr. Meigs would teach, a child's instrument, since it is sometimes used quite as much for the safety of the mother as of the child. Besides failure of uterine action, it is sometimes called for in conseqeuence of moderate deformity of the pelvic outlet. In cases of twins it is occasionally necessary to use the forceps to deliver the first child, when the head presents. It is used in face cases, particularly when the head of the child is large, and the pelvis of only moderate dimensions. In occipito-posterior presentations, when the head is large, and especially in first labours, the forceps may become necessary. In cases of arm-presentation with the head, the forceps may also be required. The instrument is used in some cases of funis presentations; in cases of turning, or breech-presentation, in which there is difficulty in delivering the head; in rupture of the uterus, when the head is low

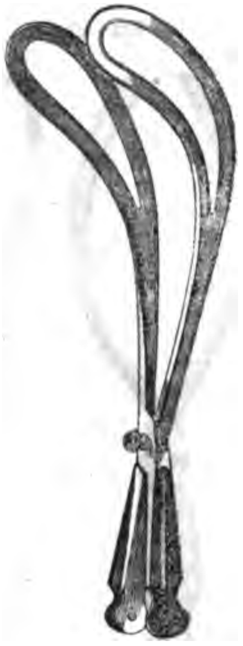
FIG. 161.



Short straight forceps.

down, and is not retracted to any great extent; and in cases of convulsion, flooding, or any other accident of labour, which may render immediate delivery necessary to save mother and child from peril. The forceps is more often called for in primiparæ than multiparæ.

FIG. 162.

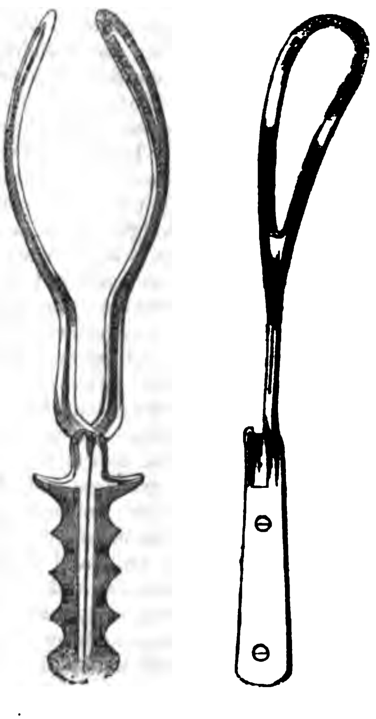


Short curved forceps.

The conditions necessary to the use of the short straight forceps are, that the os uteri should be well dilated, and partly or entirely retracted over the head of the child. Dr. Meigs says that "a man shall hardly be justified who inserts his forceps within the os uteri. He must wait until the neck has risen above the parietal protuberance, and can no longer be felt." Dr. Ramsbotham states that it may be used in some cases where as much as a third part of the circular margin of the os uteri can be felt. I have no doubt whatever that its use is often perfectly justifiable, when the upper part of the blades must enter the os uteri to extract the child. Dr. Lee insists greatly upon the full dilatation of the uterus, and says that the "greater part" of the head must have escaped from the uterus before the forceps can be safely used. Cases, however, occur in which the anterior lip can be felt in front of the head, when it rests on the perinæum; and others are met with, in which though the os uteri is fully dilated, it is not retracted above the head. With many distinguished accoucheurs it is laid down as a rule never to apply the forceps unless an ear can be felt. The late Dr. Merriman especially affirmed that no case can be "esteemed eligible for the application of the long forceps until the ear of the child can be distinctly felt." There can be no doubt of the correctness of these dicta, as far as the short forceps commonly is concerned. Another rule is, that the head should have rested on the perinæum six hours, and the pains ceased for this length of time; but numerous cases in which the forceps is required entirely contravene this dogma. The use of the forceps should never be attempted when the os uteri is undilated, when the soft parts are in a state of inflammation, when the pains are violent, or when any considerable pelvic deformity exists.

Very numerous have been the minor modifications of the forceps, but some of the improvements of the instrument appear destined to last as long as the forceps itself shall be necessary. I have spoken of the single or Cranial Curve of the original instrument. To this, Smellie and Levret added another curve, the convexity of which looks towards the sacrum, and the concavity towards the pubes. This may be called the Pelvic Curve, to distinguish it from the curve already referred to. One curve has reference purely to the head of the child and the safety of the fœtus; the other relates entirely to the pelvic cavity, and is solely intended to shield the parturient canal from injury. Besides this, Smellie increased the length of the shank or space between the handles and clams, in connexion with the pelvic curve, with a view to the extraction of the head from the pelvic brim. This was the forerunner of the long forceps of the present day.

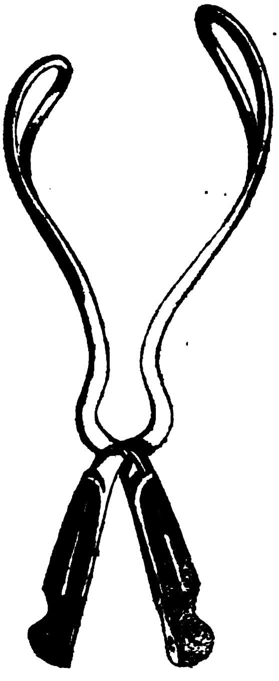
FIG. 163.



Long forceps.

As regards the addition of the cranial curve to the short forceps, authorities differ very considerably; but I believe that eventually the double, or the cranial and pelvic curve, will be universally adopted. By the pelvic curve, less danger of those horrible accidents leading to vesico-vaginal fistula by pressure on the pubes, and to laceration of the whole of the perinæum and fusion of the vagina and rectum by posterior pressure will be incurred. The short forceps with the double curve is commonly used, we are informed by Dr. Meigs, in America. Professor Siebold of Berlin, and many others in Germany, have adopted the improved instrument, and its use is common in France. In this country, to which the forceps belongs *par excellence*, the double curve has found comparatively little favour, notwithstanding the excellent instrument and example of Dr. D. Davis, chiefly, as I believe, because the matter has not yet seized professional attention.

FIG. 164.

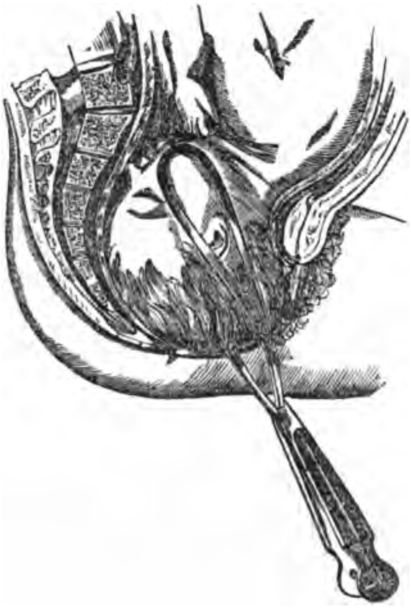


Radford's forceps.

The Long forceps is a most important alteration of the original instrument. It is not merely a variation of form, but it is applied to an order of cases altogether different from those in which the short forceps is useful. The short forceps is adapted for the delivery of the head from the perinæum, or the middle strait, or outlet of the pelvis. The Long instrument is suited to its extraction from the brim of the pelvis, or even from above the brim. For this reason, the shank is lengthened, and the best instruments possess the double curve, to adapt them to the axes of the pelvis and the parturient canal. For extraction when the head is at the brim, the short forceps is altogether inadequate without risking the laceration of the soft parts of the mother. One of the earliest anecdotes connected with the forceps, is that of Mauriceau, who relates that Dr. Hugh Chamberlen coming to Paris, rashly undertook to deliver a dwarf with deformed pelvis, who had been left to die by the French obstetrician, and after several hours of severe exertion was obliged to desist without completing the delivery. It is to relieve such cases, when the deformity is not too great, that the long forceps is peculiarly applicable, and, with the long instrument, Chamberlen might have been spared his own mortification and the censures of the great French accoucheur. Dr. Radford has devised a long forceps in which the blades are of unequal length, the short blade being intended to go over the occiput, and the long blade over the anterior part of the head.

As a preliminary to the use of the forceps, the bladder and rectum should be emptied, and the patient brought to the edge of the bed in the ordinary obstetric position. It is necessary that the nates should be brought to the edge, so as to project somewhat over it, particularly when the patient is stout, to allow of the necessary movements of the handles. If we do not arrange the position of the patient accurately in the first instance, we may have to withdraw one or both blades after the operation has been commenced, and begin again *de novo*. In the use of the straight forceps, our object must be to pass the blades of the instrument over the sides of the head of the child, so as to bring the parietal protuberances within the fenestra. We are at the same time obliged to consider the capacity of the pelvis in its different diameters, and it is found that the blades will pass in one direction when they will not pass in another. But our chief consideration, as regards the direction in which the blades are passed, is to be given to the fœtal head. The forceps may require to be passed over the head in any of the directions described when treating of the mechanism of labour. We may have to grasp the head in any of the four cranial positions described. The most common position in which the forceps is required is the first, in which the vertex is directed against the left branch of the pubes, and it is to this position that almost all the ordinary descriptions of the application of the forceps refer. In this position, the bilateral diameter of the child's head corresponds pretty accurately to the right oblique diameter of the pelvis, and it is in this diameter that the head is generally grasped with most facility. In the second position, the vertex is turned towards the right portion of the pubic arch. The third and fourth positions are merely the reverse of the first and second. Practically, we have, in ordinary cases of head presentation, in which the forceps may be required, to deal with the fœtal head lying with its longest diameter in the right or left oblique diameters of the pelvis. When the head lies in the right oblique diameter, we have to pass the blades of the forceps in the direction of the two extremities of the left oblique diameter, and *vice versâ*. When the long diameter of the head occupies the transverse diameter or nearly so, the blades of the instrument must approach the antero-posterior diameter. When the head rests on the perinæum, its long diameter approaches to the antero-posterior diameter, and we have to manipulate with the forceps almost in the transverse diameter of the pelvis. It has always been insisted on as a condition absolutely necessary to the proper use of the forceps, that we should know the exact position of the head. For this purpose we are told by many authors of the present day, to pass two or three fingers, or the whole hand, between the fœtal head and the pubes, to find out the position of the ear. But such manipulations are quite unnecessary, if we are familiar with the methods of diagnosing the position of the fœtal head by the examination of the sutures and fontanelles by the index-finger, as detailed when the different presentations of the head were under consideration. This ought to give us all the information we require as regards the position of the fœtal head.

FIG. 165.



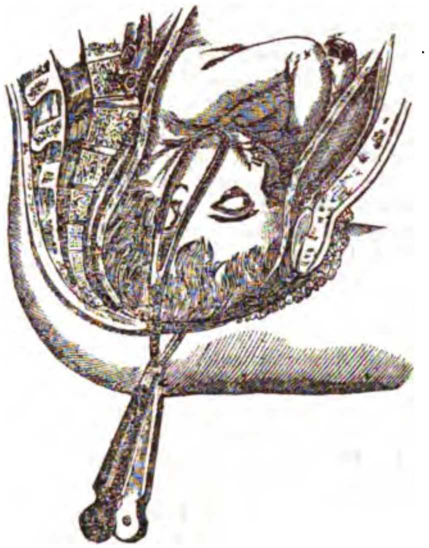
Delivery by short forceps in first position.

Taking the first position for our description, the following is the mode of proceeding with the short forceps:—The first blade should be held lightly in the left hand, the first one or two fingers of the right hand being passed a short distance over the head, behind the right portion of the pubic arch. The end of the blade should now be introduced through the ostium vaginæ, and passed upwards between the finger and the head. In this procedure the handle of the instrument requires to be depressed considerably. The end of the blade should be kept lightly but pretty closely in apposition with the head as it glides onwards. With the finger we should aim, if possible, to pass the instrument over the ear of the child, and under the rim presented by the os uteri. When these cannot be felt, or when the blade cannot be passed, while the finger is at all deep in the pelvis, we shall find these obstacles are best perceived and avoided, by holding the instrument lightly in the hand, as a probe. After the blade has first come in contact with the head, we must go on depressing the handle until we have reached the summit of the cranial vault. After this point, the handle has to be raised until it has passed over the side of the head, in the direction of the right foramen ovale. Care must be taken not to damage the ear, or the margin of the os; and in case of any difficulty, it is always right to withdraw the blade partially or entirely, in order to detect the impediment. The highest skill in the use of the instrument is to pass it with the utmost gentleness. We should, of course, know the position of the head in all cases. But it is not, after all, hair-breadth knowledge we require. The instrument is so admirable and perfect in its relations to the pelvis and the fœtal head, that blade, and head, and pelvis, concur in aiding the operator, and in depositing the instrument in the right place. The genius of Chamberlen assists, as it were, at every proper case in which his instrument is employed. When the upper and anterior blade has been passed, the handle is brought towards the pelvis, and held there by an assistant, and the spare fingers of the operator during the introduction of the posterior or inferior blade. It is more difficult to pass the second blade than the first, owing chiefly to the occupation of the vagina by the anterior blade. The first finger, or two first fingers of the left hand have now to be passed over the head in the direction of the left sacro-iliac synchondrosis; and the second blade, held in the right hand, is to be passed, with the precautions already described, over the opposite side of the head. The handles should now be drawn together, and if the blades have been properly applied the handles lock readily, and the position of the blades is rendered perfect and fixed by a moderate compression of the handles. Great care must be taken to guide the ostium vagina during the process of locking, so as not to pinch or lacerate the soft parts of the mother. The inner smooth surface of the handles should always be parallel with each other when the instrument is rightly applied. If they are not even, the instrument is pretty sure to slip or unlock when traction is applied. The handles should not be brought close together, but it is sometimes advisable to tie them, so as to prevent their unlocking in the interval between the pains, and also to exert gentle compression on the fœtal head. During a pain,—when the pains have not disappeared,—the first effort at traction should be made in the direction of the pelvic axis, due regard being had to the position in which the child's head has descended. The traction should be gentle at first, but gradually increased to the extent that may be necessary, intervals of rest being allowed when the pains are off, or in imitation of pains. Besides the efforts of traction, the handles should be moved a little from side to side in extracting, so as to use each blade in succession as a lever. As the head descends, the handles should be brought forward between the thighs of the mother, and as the head is expelled, they should, if the instrument remains on, sweep over the abdomen in the direction which the head itself would take if its movement were prolonged. When the head is in the pelvis, we must be careful not to direct the handles too much backwards, as this endangers the bladder and the anterior vaginal wall from the anterior blade. When the head is coming into the world, the handles should not be pressed too far forwards, otherwise the perinæum is ploughed up by the posterior blade. When the head is passing through the ostium vaginæ, care must be taken not to lacerate the perinæum. It is best at this moment to unlock the instrument, just as rowers unship their oars to avoid collision, or the posterior blade may be withdrawn altogether, and expulsion allowed to take place by the natural efforts. After the operation an opiate is generally administered, the vulva should be fomented carefully from time to time, and symptoms of inflammation or sloughing carefully attended to. I am of opinion that in cases where the patient does not prefer to remain conscious, or when the head is very low on the perinæum, chloroform should be used in delivery by the forceps. In the first case in which I used chloroform in a forceps case, the instrument was applied to the head without it by the medical man who asked my assistance; but the patient was of nervous temperament, and on the slightest attempt at traction her movements were so violent as to render it impossible to proceed, and the alternative was between chloroform or craniotomy. The advantages of having the patient quiet and free from pain are very great. The forceps acts as an extractor, a double lever, and a compressor. The limits of its action as a compressor must depend on the difficulties to be overcome, due regard being had to the safety of the child.

In the other positions of the head, or in face cases requiring assistance, the same general principles are to be followed in applying the short forceps as those already laid down. To operate perfectly the blades of the forceps should always be applied to the sides of the head; they will thus, as the rule, occupy the diameters of the pelvis opposite to those occupied by the long diameter of the head. One of the most difficult is the occipito-posterior position, which is not very common, but it has happened to me to meet with two primiparous cases of this kind in which the forceps was necessary. One of them I saw with Dr. Guneau de Mussy, and the other with Mr. Jonson, of Eaton-place.

The Long Forceps is adapted for the completion of delivery in cases of moderate contraction of the pelvis, especially in the conjugate diameter, where the head will not enter the brim, or descend below it, by the unaided force of the uterus, or where the head lodges at the brim from any other cause. When the head presents at the brim, it will be remembered that the long diameter lies in the transverse, as in one of the oblique diameters, or more commonly in a position between the transverse and one of the oblique diameters. The head of the child is also in the state of Flexion—that is, with its chin bent upon the sternum. As a consequence, the vertex, and not the apex, of the vault of the cranium, is the most depending part. Under these circumstances, the blades of the forceps cannot be applied on each side of the child's head, because these sides are in apposition with the pubes and the sacral promontory, between which points the constriction exists. The forceps are in such cases introduced with reference to the anatomy of the pelvis chiefly, and not to the anatomy of the fœtal head. The two blades are passed up, one on each side of the pelvis, and they then fall mechanically into, or approach towards that oblique diameter, opposite to the diameter which is occupied by the head itself. The parts of the fœtal head actually grasped by the blades are the occiput and the forehead. The grasp does not, however, seize the long diameter of the head exactly, but a diameter between the longitudinal and the transverse or biparietal. The ends of the blades reach, on one side to the nape of the neck, and on the other to the base of the brow, but they do not pass over the face. Greater care is necessary in extracting with the long than with the short forceps, because the direction in which extractive power has to be exerted is more complicated, and because the instrument is more powerful than the short forceps. Care should be taken not to use such force as may injure the mother; and if, after endeavouring within this limit, to effect delivery, we are obliged to resort to craniotomy, we shall perform this operation with less hesitation or misgiving when we know that there is no alternative.

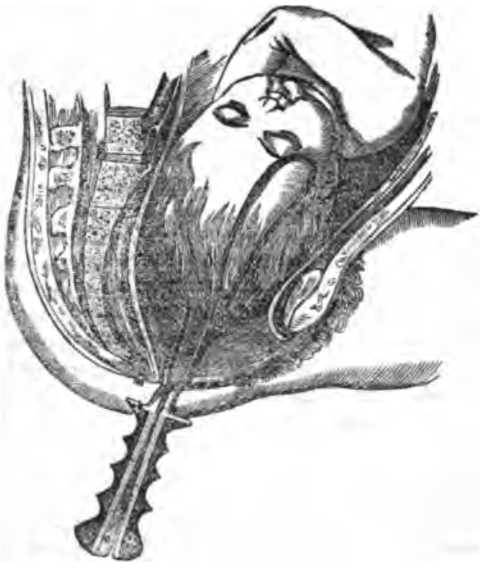
FIG. 166.



Delivery by short forceps in antero-posterior position of head.

No doubt, the use of the long forceps is a weighty matter, and not to be undertaken without due and serious consideration. But the alternative must be remembered—namely, the performance of craniotomy, and the inevitable destruction of the child. By craniotomy, too, a considerable amount of danger to the mother is incurred. In cases of pelvic contraction, to such an extent as not utterly to preclude the possibility of the passage of a living child, the long forceps should always, unless some great peculiarity exists, be tried. After attempting delivery in this way, we shall, as already said, certainly resort to craniotomy with a clearer conscience, than would otherwise be the case. In London the use of the long forceps has been a subject of grave dispute. Dr. Lee, one of the most experienced obstetricians of this or any other age, may be said to represent those who oppose its use; but Dr. Ramsbotham and others defend it. It has long been used in Edinburgh by Dr. Hamilton and Dr. Simpson. In Dublin it has found little favour, particularly at the great Lying-in Hospital, the different masters having opposed its employment. Dr. McClintock, the present master, a most accomplished and unprejudiced obstetrician, who was recently in London, informed me that he had, within a short time, used the long forceps on two occasions with success, and he expressed himself a convert to its use. Dr. Fleetwood Churchill also recommends their employment. Its utility is fully recognised in America, and also in France and Germany. The chief objection urged against the use of the long forceps is, the injury done to the mother by operations above the brim. But most of these injuries have been owing to the use of the short forceps in this situation, for which they are not at all adapted. The impossibility of introducing the forceps in distortions of the brim has been dwelt upon, but this difficulty chiefly applies to attempts to introduce the blades in the antero-posterior diameter. In the transverse diameter, or in the oblique diameter opposite to that in which the head engages, there is often as much room in contraction of the conjugate diameter as in the normal pelvis. It has also been urged that the action of the forceps, as a compressor, acting from the sides of the pelvis, must bulge the biparietal diameter, or that part of the head opposed to the conjugate diameter of the pelvis, and thus increase the difficulty of the passage of the head. But, as already stated, the forceps seizes the head obliquely, and not in the antero-posterior diameter, so that any retardation caused by the bulging of the head is more than compensated for by the extractile action of the forceps. The supposed injuries done to the face of the child have been dwelt on, but it can be shown anatomically, and as the result of practice, that the anterior blade of the forceps does not extend beyond the root of the nose. The objections to the use of the long forceps are, in my opinion, either prejudiced or invalid, and such as, on the introduction of the short forceps, might have been urged with almost equal weight against that instrument.

Fig. 167.



Delivery by Dr. Simpson's long forceps in contraction of the brim.

Clinical Lecture

ON A CASE OF

CONCUSSION OF THE BRAIN, DELIRIUM TREMENS, & EPILEPSY, COMPLETE RECOVECY.

By SAMUEL SOLLY, Esq., F.R.S.,

SURGEON TO ST. THOMAS'S HOSPITAL.

Gentlemen,—The case that I have to call your attention to to-day is one of extreme interest. As has been said, "Good wine needs no bush," so may I say of this case, that it requires no introduction.

John W——, aged thirty-seven, omnibus conductor, admitted January 22nd, 1857, with concussion of the brain; habits intemperate, drinking beer and spirits throughout the whole day, but without getting positively drunk till the evening. When standing on the board at the back of the omnibus, which was in motion at the time, his strap gave way, and he fell with much force to the ground, striking the centre of the occiput. The blow must have been very severe. When admitted there was a swelling, about the size of an orange, at the seat of injury, from effusion under the scalp; but there was no fracture of the bone, or any evidence of fracture of the base of the skull; no bleeding from the ears, nose, or mouth. He was barely conscious, and could only be roused with difficulty so as to answer a simple question or two. His pulse was slow, small, and fluttering, and his skin cold. His pupils were not fixed, but answered to the stimulus of light.

The above description you will at once recognise as that of a case of simple, and not very severe, concussion of the brain. As there was no fracture, or evidence of compression, or other symptom indicating the necessity of operative interference, I was not sent for, and I did not see him until the next morning. It may perhaps appear to you strange, that with such a blow the skull was not fractured, and that no bloodvessel was ruptured by the jar. As you advance in professional experience and anatomical knowledge, you will find as a fact, that the skull is seldom fractured by a fall upon the head, unless the fall be from a great height, the vertex of the skull coming to the ground, and then fracture of the base will follow. But in other instances, the blow is almost invariably received by some of those buttresses—some of those strong points of the skull which Nature has provided to protect the brain from ordinary injuries. If a man is pitched off his horse on his head when hunting, his skull is seldom fractured, unless the head strike a stone, stake, or other projecting body. But if his horse kick him when down, then the brain case may be broken into.

The absence of extravasation of blood within the skull, either from laceration of the brain, or laceration of the bloodvessels of the meninges in this case is, I believe, to be attributed to the age of the patient, and his general plethora at the time. If he had been an old man in an anæmic condition, the probability is, that such a blow would inevitably have been followed by laceration of the brain, or some amount of extravasation. I say some amount of extravasation, because I have seen cases where there has been a mere smearing of blood over the surface of the brain. An extravasation not sufficient to produce compression, or the symptoms of compression, but sufficient to produce great irritation, and long-continued violent pain.

I have traced this morbid state in cases of apoplexy from disease, by its symptoms during life, until a post-mortem examination has revealed its positive condition.

I have lately had under my care a female servant, who was injured by a railway collision. She is fifty-three years of age, anæmic, and rather below par in every respect. At the time of the accident, the symptoms of concussion were very slight. Her general powers were much depressed; the pulse feeble, and consciousness disturbed, but not obliterated. She had received a severe contusion over the right eye and forehead; she did not at first complain much of her head, but wished to be left quiet. She felt very sick, and vomited at the time. On the following day there were still no serious symptoms, and I did not see her again until two or three days after the accident, when the pulse, which had been gradually getting up, was then from 100 to 120, and firm and throbbing. The countenance gradually became anxious. The treatment adopted, was a purgative in the first instance, and cold applications to the head, and then a saline mixture. After two or three days, as her head was easier, but her pulse feeble, and general powers depressed, we ventured to give a little ammonia, and a grain of steel; even this small quantity increased the pain in the head, and the following day we abandoned it. From this time the case was treated antiphlogistically with calomel to salivation, repeated leeches and cold lotions and ice to the head as long as the unnatural heat continued, which it did for four or five weeks, accompanied with sleeplessness, want of appetite, entire inability to read or think, feeling only tolerably comfortable when quiet; more than once complaining of a loud report and noises in the head.

This poor woman ultimately recovered, but she was under treatment about two months. Her memory is still feeble; she cannot walk up stairs without feeling giddy. She cannot read or write. If she walks out in the streets, she feels more or less lost; has some tremblings or weakness in the legs—some pricking feeling; pulse continues 90 to 100. Still sleepless—cannot get to sleep for hours, and one morning found herself sitting up in bed. She cannot therefore even now be considered perfectly well.

This case is a very peculiar one, and such as I have never seen except as the result of railway concussion. I do not, of course, mean to say that no other kind of violent collision might not produce the same result; I only mean that, in above thirty years' hospital experience, I do not remember a case exactly similar, but I have seen a corresponding train of symptoms follow concussion on a railway.

The peculiarity is the absence of severe symptoms of concussion, compression, or other signs of injury to the brain, at the time of the accident; the extreme, constant, and lasting heat of the head; the great, unintermittent, and unvarying pain of the head, unfollowed by the excitement which accompanies inflammation of the pia mater and hemispherical ganglion, or the eclipse of the faculties which serous effusion invariably, though gradually, produces. I believe that in this case there was slight hæmorrhage on the surface of the brain, just smearing it with blood. There was enough to act as a foreign body—as an irritant, but not enough to produce compression; and there was enough to have produced inflammation, effusion, and death, if our treatment had not been energetic and decided. Her general powers were feeble, so that over-depletion would have easily thrown her into a typhoid state, and less would have allowed inflammatory action to have ridden rampant over her brain. I never had the care of a case of injury to the brain in which, under God's providence, I had more reason to believe that careful surgical treatment was the means of saving life. I attended the case with Mr. Skelding, of Euston-square, and I am much indebted to him for the judicious and accurate manner in which he managed the case between the intervals of our consultations.

The case in the hospital which we have to consider to-day affords a striking contrast to this poor woman; for as certainly as leeches, calomel,

&c., saved her life, so certainly would these remedial agents have hurled the omnibus conductor into the grave. We will now, then, continue the report:—

"Hair to be cut close, and a cold lotion to the head; an aperient draught to be taken immediately." If I had prescribed for this man on admission, I should have ordered a scruple of rhubarb and calomel, in preference to the aperient draught, for the latter merely acts on the large intestines, often producing only a watery evacuation, instead of stimulating the liver, and unloading the canal from the stomach to the anus.

"23rd.—On being put to bed yesterday evening, his pulse shortly afterwards became stronger, and he appeared to sleep soundly and quietly." In a case of concussion, never be afraid of your patient sleeping; the longer the better, if it is unaccompanied by stertor, or other symptoms of compression. You must look upon sleep in these cases, as in many others, as Nature's soft nurse. "This morning he answers questions rationally; he has vomited considerably, but his bowels have not yet acted; pulse 88, good power, not hard; tongue coated with a white, creamy fur; skin rather hot. Ordered by the house surgeon one drachm of sulphate of magnesia, in water, immediately, and repeat if necessary; head to be shaved, and ice applied.—Evening: He is restless, has jumped out of bed once or twice for no apparent reason, has not slept for the last twelve hours, is slightly delirious, and calls for beer; pulse intermittent.

"24th, Noon.—He has not had much sleep, very restless and irritable; bowels have acted freely. When questioned, he answers in a collected manner; he states that he is better, and feels less pain in the head. The next minute his conduct and manner are irrational; he wants to get out of bed and go home, and talks foolishly. Tongue moist and creamy, and pulse rapid."

I now saw him for the first time, and was of course called upon to decide whether he was suffering from that inflammation of the brain which is a frequent sequence to severe concussion, or from incipient delirium tremens. The decision was a most important one, as the two states required a diametrically opposite course of treatment. After carefully considering all his symptoms, I came to the conclusion that it was delirium ebriosorum, the delirium of drunkards, that which is usually known as delirium tremens; I say usually known as delirium tremens, because you will sometimes find that the delirium e potû is confounded with delirium ebriosorum. The distinction is an important one. In the latter, in the delirium ebriosorum, I believe that the brain is in an anæmic condition. It is occasioned by the sudden deprivation of its accustomed stimulus; it comes on when a drunkard leaves off drinking. The other—the delirium e potû—occurs during the full influence of alcoholic drinks. It is a result of over-stimulation to the brain, which, through its agency, is congested and inflamed. It is a rare disease compared with the delirium ebriosorum.

I will now endeavour to give you my reasons for this conclusion, though the shades of all cerebral diseases run so much one into the other that it is very difficult to paint in words the distinct characters which ought and will guide you at the bedside, if you make good use of your time in the wards when in London. The main points are these: that in delirium tremens—and you will understand that in employing that term I now mean to confine it to the anæmic, the atonic form—there is first the absence of any heat in the head. There is no test so certain of the existence or absence of inflammation of the brain and its meninges as unnatural heat of the head. You must first compare the heat of the brain-case or skull with other parts of the head and face, as the ears and nose, next with the hands, trunk, and extremities, of course making allowance for the difference between covered and uncovered parts. Also observe accurately whether both sides of the head are alike. We have on the opposite side of the ward a very interesting case of injury to the skull, which I shall refer to again very soon, in which there is a difference in the heat of the two sides of the head. Next, the tongue. In true inflammation of the brain, I believe that the tongue is always dry and furred, not moist and creamy. The pulse rapid, and irregular in frequency and force, not hard and regular as it is usually at the commencement of an inflammatory attack, or slow and labouring as it is in the latter stages of disease of the brain.

But the manner and mental condition of the patient is the most conclusive. In delirium tremens, the amount of mental aberration varies very much: one minute he will talk in a wild, excited, and silly manner, and the next he will answer quite rationally. It appears as if the brain recovered for a short time its normal condition under the excitement occasioned by seeing a fresh face by the bed-side. In a case of inflammation of the brain, there is no such cessation of symptoms; the mental excitement and aberration of intellect is continuous; the delirious wanderings may vary in intensity, but they are never absent.

In delirium tremens, as the name implies, there is always more or less tremor. It may be observed in the tongue, legs, eyeballs, and extremities. There is a busy way about the patient, if I may so express it; he is always thinking of his business, fancying he is at his work, talking to his companions, &c. There is usually an entire freedom from pain in the head, which is a marked symptom in the early stages of inflammation of the brain.

Having, then, come to the conclusion, notwithstanding the severe blow on the head which my patient had received two days previously, notwithstanding the symptoms of concussion of the brain at the time of the accident, that I had to treat an anæmic, not an hyperæmic, condition of that organ, I ventured to prescribe one drachm of liquor of opium, immediately, to be repeated in six hours if he did not sleep. Tincture of opium, ten minims; aromatic spirit of ammonia, half a drachm; camphor mixture, one drachm,—every four hours. Porter, one pint. We will continue the report:—

"Evening.—Before, and for some short time after, taking the opium, he became more restless and impatient, frequently getting out of bed, &c. The delirium assumed a wandering character; he fancied he saw things in his bed, and that he was busy in his accustomed employment. After about three hours, he fell into a sound sleep.

"25th.—He has slept soundly for several hours, answers in a rational and collected manner, and seems altogether better.—Eleven o'clock P.M.: Has had a fit of an epileptic character, with much foaming of the mouth, rigidity of the muscles, and clenching of the hands; after which he was bathed in a copious perspiration. His pulse was 84, irregular and intermittent; his tongue moist, but coated with a white creamy fur. He soon became conscious; but after being raised in bed, and having taken a powder of calomel and rhubarb which had been ordered in the morning, he had another epileptic seizure, with nearly the same symptoms, but with more grinding of the teeth and contraction of the pupils.

"26th.—Ten A.M.: Had another fit about half-past one; is now more composed. The irregular intermitting character of the pulse is much more marked after each fit, but no cardiac affection is perceptible by the stethoscope."

I saw him this day soon after one; he had a fit while I was by his bedside, and there was no mistake as to its true epileptic character.

Here, gentlemen, we had to combat with a fearful complication of his maladies. Epilepsy, that strange, mysterious disease! how little do we know of its proximate or ultimate cause, and consequently how empirical is our treatment of it! There is, however, one point in its pathology regarding which I have no doubt,—namely, that it is essentially a disease of debility, and that all bloodletting does harm. In thus decidedly stating this opinion, I ought, however, to observe that some physicians of great practical experience do not agree with me, and I have heard them relate cases in which they consider that local depletion has been attended with benefit in epilepsy. Of course there is no rule without an exception, and every man must use his judgment in the treatment of each individual case. I think it necessary to warn you against bloodletting in epilepsy, because, unless you approach a case of epilepsy with this impression regarding depletion, you would be tempted to employ it. At the time of an epileptic fit, and for some time after that, there is every indication of congestion of the brain, varying in intensity in different patients and in different attacks of the same patient; but symptoms of congestion of the brain are never absent altogether. If, therefore, you see a case immediately after the convulsive stage of the fit has passed off, you will be tempted to pull out your lancet and relieve the struggling and oppressed brain of the load which bears upon it; and with this little instrument you may relieve it for the time, but with the certainty—at least so my experience has taught me—of causing an earlier repetition of fits, with increased severity.

I remember some years ago being tempted, from the signs which I have detailed to you, to use the lancet. My patient was a stout, strong-built, plethoric man, in other respects apparently in rude health; a man to whom you would have thought the abstraction of a little blood would be no loss, but a gain. It was not so: the bloodletting was followed by a rapid succession of attacks, such as he had not previously been liable to. This gentleman suffered from the disease for many years subsequently, but ultimately recovered, taking the oxide of silver; and he has remained well for the last ten years.

I must, however, warn you not to confound the convulsions which are caused by laceration of the brain with those of true epilepsy. If you have once watched a case of epilepsy, you are not likely to confuse the two, and therefore I say take every opportunity of watching this complaint that offers itself while you are about the hospital or elsewhere. The convulsions arising from lacerated brain are more like a continued disease than those of epilepsy. The spasmodic contractions of the muscles are not usually so violent, but more continuous; they are more like the flickering of summer lightning than the sudden discharge of one thunder cloud. In injury to the brain they are usually confined to the same part of the body—one arm or one leg on the same side of the body, or even one side of the face.

Between the true epileptic fits, if they do not succeed each other very rapidly, the brain recovers itself, and the intellect appears natural. If, however, the convulsions arise from laceration of the brain, then the cloud never entirely passes off; consciousness throughout is more or less obliterated. Sometimes, it is true, the patient may be roused so as to answer some simple questions, even after extensive injury of the brain; but such exertions are evidently the result of great effort, and the mental obscuration immediately returns.

In laceration of the brain you will generally find the pupils of the eyes unequal; at first the pupil opposite the injury is unnaturally contracted. It is smaller than the other; neither does it act so readily. As the disease of the brain advances, then the pupil dilates, till at last the iris becoming quite paralysed, the elastic ciliary ligament obtains the mastery, and the protecting curtain of the eye no longer obeys the nervous system. I do not mean to assert the pupils are never found unequally dilated in epilepsy during the attack, but it is not usual.

With these opinions regarding the atonic condition of the nervous system in epilepsy, I had no difficulty in continuing the same plan of treatment I had commenced for delirium tremens, adding to it that medicine from which I have seen more benefit accrue than any other in the treatment of epilepsy—namely, the oxide of silver.

We will now return to Mr. Sprakeling's report of the case:—

"26th.—Nine P.M.: From half-past twelve to the present time he has had twenty epileptic seizures; they have been much of the same nature and duration; the face became rather livid towards the end of each attack. There is no evidence of paralysis during a fit; he lies as if in a sound sleep. His face is flushed, but there is no particular heat of skin of the face or head. The pupils act on the stimulus of light, though sluggishly; pulse rather fuller, about 88, and compressible.

"27th.—Is conscious to-day when spoken to, but his answers are scarcely rational. He jumps out of bed occasionally, and talks a good deal; has had two fits during the day.

"28th.—Improving daily. When questioned he answers rationally at first, but afterwards he talks in a delirious, rambling manner about his occupation; his pulse is 68, small and weak. There is no heat of skin, though his face looks flushed; tongue sore, but not coated; bowels open. Ordered gin, six ounces in the twenty-four hours, and two pints of ale, this having been his usual drink; full diet, with mutton-chop. To repeat the mixture of ammonia and opium previously prescribed. Only one fit during this day.

"30th.—Answers questions more rationally; pulse soft and quiet; not unnatural heat of skin; bowels confined. Compound rhubarb pill every night.

"Feb. 6th.—Improving daily. States that he feels much better. Allowed to leave his bed. He answers questions correctly, but there is still the busy restless manner of the delirium ebriosorum that is not quite satisfactory; bowels regular; appetite good; pulse 84, small and weak.

"12th.—The same diet, stimulants, and medicine have been continued; his manner is more rational and collected. He wishes to leave the hospital, but I advised him to stay a little longer, and he consented.

"19th.—He has been gradually and steadily improving up to the present time. He has had no return of the epilepsy since the 28th of January. His conversation and manner are now quite rational. He states that he is entirely free from pain in his head. Under these circumstances I saw no reason to detain him longer in the hospital. He left it this day quite well. How long he will remain so depends upon himself. If he commences his old intemperate habits, he will very soon be ill again; but if not, I see no reason to apprehend a relapse."

I do not remember a more interesting case, practically, physiologically, and morally. It reminds one of the value of the injunction, "be temperate in all things."

Clinical Lecture

ON

AMUSSAT'S OPERATION.

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GENTLEMEN,—I wish to direct your attention to-day to the case in which I last week opened the descending colon in the left lumbar region, and which, though it has not terminated so satisfactorily as we could have wished, affords me an opportunity of bringing some points connected with the operation usually called *Amussat's* under your observation.

Before proceeding to detail the case in which I have lately operated, I think it well to make a few remarks on the general subject of the operation itself,—the principle on which it is founded,—the anatomy of the parts concerned,—and the cases requiring it.

1. The principle on which Amussat's operation is founded, is very simple. It is to establish an artificial anus without wounding the peritoneum, by opening the posterior third of the descending colon in the left lumbar region, where that portion of the gut has no serous investment. In this respect, Amussat's operation resembles that of puncturing the bladder above the pubes, or behind the prostate, the surgeon opening the viscus in situations where it is not covered by peritoneum. Before Amussat applied this principle to the colon, surgeons had, in cases of intestinal obstruction, been in the habit of following an operation proposed by, and named after, Littré, which consisted in making an incision in the left iliac fossa, through the peritoneum, drawing forward a knuckle of intestine, opening and fixing it to the edges of the wound in the integuments. Such a procedure as this was so fraught with danger from the peritonitis that of necessity ensued, that few had the hardihood to undertake it, but preferred letting their patients die the most horrible of all deaths—that from intestinal obstruction—rather than submit them to so hazardous an operation. Whilst attending the celebrated physician, Broussais, for cancer of the rectum, of which he died, Amussat states that he was led to reflect on the standard resources offered by surgery in such cases, and was led by the inquiries that he had then instituted to the conclusion that the proposal made more than half a century back, by Callisen, of Copenhagen, of opening the left lumbar colon, behind the peritoneum, was a feasible one, and should be adopted. You will observe that in the introduction of this operation, as in so many other improvements in our profession, and in practical science generally, the sole merit did not lie with one originator, but the proposition of one is put in practice by another. Callisen proposed the operation on theoretical grounds, but attempting its performance on the dead subject found the difficulties to be so great that he abandoned it. Amussat here took it up, investigated the

matter afresh, put it in practice on the living subject, and thus established it as a most important addition to the means that the surgeon has at his disposal for the relief of otherwise intractable disease.

2. The anatomy of the parts concerned, and the steps of the operation, must next engage our attention. The point of most importance is the relation of the descending colon to the peritoneum in the left lumbar region. In order to study this, you should dissect the body from *behind*. In an ordinary dissection or in a dead-house examination, the body being opened from the front, the colon is drawn forwards, and thus a distinct and somewhat elongated mesocolon will be formed in the left lumbar region. But this mesocolon is in a great measure formed by the traction of the dissector tearing off the reflexions of the peritoneum in the lumbar region, and does not naturally exist, as will be seen on making the dissection from behind, when the posterior third of the descending colon will be found lying closely against the cellulo-adipose layers that line the abdominal wall in this situation. It will be seen to be uncovered by peritoneum, and to have no loose or floating mesocolon; but the serous reflexion will be found to be closely applied to the wall of the abdomen on each side of the gut. It is, however, very important to observe that the extent of gut that is uncovered by peritoneum will vary according as the colon is contracted or distended. When empty and contracted the peritoneal reflexions come into very close apposition, and nearly overlay the naked portion of gut; but when this is distended they are pushed aside as it were, and a broad expanse of colon will be seen to be uncovered by peritoneum. The facility of exposing the uncovered part of the colon, without wounding the peritoneum, will be in the exact relation of its amount of distension.

The region in which the operation is performed is bounded above by the last false rib; below, by the crest of the ilium; behind, by the lumbar spine; and in front, by an imaginary mesial lateral line. In this oblong quadrilateral space a horizontal incision should be made, commencing two fingers' breadth to the left side of the spinous processes of the lumbar vertebræ, and carried horizontally outwards for about four inches midway between the last rib and the crest of the ilium. After the integumental layers are divided, the anterior edge of the latissimus dorsi and the posterior part of the abdominal muscles are successively divided. The dissection is carried down through these, until the transversalis fascia is reached; the anterior and middle lamellæ of this are opened, and the edge of the quadratus lumborum exposed. The real difficulties of the operation now commence; the surgeon having to dissect carefully through layers of cellulo-adipose tissue which lie in front of the abdominal wall, and which cover in the colon and the contiguous reflexions of peritoneum. If the gut is distended, this tissue will be pushed well aside, and the intestine may easily be reached; but if it be contracted and empty, it will be found to recede somewhat from the surface, to lie at a great depth, and to be almost overlapped by the reflexions of the peritoneum, to avoid wounding which requires the greatest care. It is also covered in by a quantity of loose cellulo-adipose tissue, which, as it rises and falls, with the respiratory movements, presents a considerable resemblance to the peristaltic motions of the small intestines, for which it may be at first mistaken. After having worked his way through this tissue, the colon will be exposed towards the outer angle of the wound. This gut can at once be recognised from any other structure by its greyish-green hue, the longitudinal striæ on its posterior surface, and its thicker feel. When exposed, a needle, carrying a strong whipcord should be passed through it in a vertical direction, and the gut being thus drawn to the surface, may be properly opened and stitched to the edges of the wound.

Commonly the colon will be found lying vertically across the wound in a line corresponding to the outer edge of the quadratus lumborum, and the "directing line" to it may be said to be the line of aponeurotic structure, formed by the puncture of the two lamellæ of the transversalis fascia that constitute the sheath of the quadratus, and which may readily be distinguished by its colour from the muscular structures, across which it lies, as it traverses the incision in a perpendicular direction. Below this, the colon when distended will always be found; but when contracted, it retreats beneath the quadratus, and the anterior edge of this muscle must be divided before it can be exposed.

There is one caution I have to give you about opening the colon. It is that the gut should be well drawn forwards before it is punctured, fully on a level with the skin, in order that its contents may not be extravasated into the loose cellular tissue around it, and, when opened, the edge of the aperture must be stitched to those of the incisions in the skin.

3. The next point that we have to consider is the class of cases in which this operation is required. These are threefold—1st, fæculent distension supervening in obstruction of the rectum or sigmoid flexure of the colon, or arising from the pressure of tumours, the blocking up of the gut by cancerous disease, or the gradual closure of a stricture; 2ndly, for congenital absence of the rectum; and 3rdly, for the relief of pain in ulcerated cancer of the rectum. Thus you will observe that the operation may be performed on two different principles—first, for the relief of intestinal obstruction, by affording a vent to the pent-up intestinal contents, where the lower portion of the intestinal tube is blocked up or is congenitally absent; and secondly, on a totally different principle, in cases in which there is no retention of fæces, but in which the patient is worn out by the agonizing suffering induced by the passage of the fæculent matters over the raw and ulcerated surface of a cancerous rectum. In these cases defæcation is a horrible torture, the pain of which is dreaded by the patient, in conse-

quence of which he defers the act as long as possible, and when it does take place the suffering induced is such, that for hours afterwards he will lie in an exhausted state. The constant recurrence of such suffering speedily wears out the strongest frame, and the passage of the fæculent matters through the ulcerated rectum stimulates the activity of the cancerous disease, which thus makes more rapid and extensive ravages than it otherwise would, and thus hastens the fatal termination of the case.

(1.) I will not dwell at present on the performance of Amussat's operation in cases of intestinal obstruction; but I may remind you that it is of course only in the *chronic* form of the disease that it is applicable. *Acute* intestinal obstruction almost invariably proceeds from internal strangulation or intussusception of the *small* intestine, and here of course the procedure that we are now discussing can afford no relief; but *chronic* intestinal obstruction is almost invariably—I believe, invariably—dependent on disease implicating the large intestine, and such disease is, in the vast majority of instances, seated below the descending colon, at the upper part of the rectum, or in the sigmoid flexure. When such is the case, the opening of the colon in the left lumbar region will afford the required relief. In these instances, the operation is comparatively easy; the gut is enormously distended, presses forcibly against the posterior abdominal wall, and pushes widely aside the lateral reflexions of peritoneum, so as to leave a large surface uncovered by serous membrane. I was present, many years ago, at the first operation of this kind that M. Amussat performed, and I shall never forget the immense rush of flatus and fæces that took place, and the instantaneous relief that ensued when the gut was punctured, the obstruction having lasted more than forty days. In cases such as these, some surgeons prefer opening the cæcum in the right lumbar region; but as the transverse colon is very rarely, if ever, the seat of the stricture, I cannot see any advantage in departing from the operation as recommended by Amussat.

(2.) In cases of congenital absence of the rectum—not of simple imperforate anus—Amussat's operation has occasionally been attempted, but its performance in such cases is full of difficulty, on account of the narrowness of the part in which the surgeon has to work, the depth of the gut from the surface, its small size, and its occasional malposition. I am not aware that its performance in this malformation has been attended by any permanent benefit, and I should, in preference, feel disposed to do what we have had occasion to practise here several times of late years—viz., the establishment of an artificial anus in its normal situation.

(3.) We will now briefly consider the case in which you saw me operate the other day, and the class to which it belongs. It is related as follows in the case-book by Mr. Jeaffreson:—

CASE.—*Cancerous Disease of the Rectum.*—Stephen C——, aged forty-five years, was admitted into University College Hospital on Friday, Nov. 14th, 1856. He was by trade a plumber, and lived in Sudbury till twenty-one years of age. He then removed to London, where he followed his trade till he was twenty-nine years of age. He then established himself in business as a maltster at Groton, in Suffolk. He was then single; his life was irregular; "he never was a drinker," but on being asked whether he went home directly after market, &c., I found that he stopped late, and habitually drank freely. He was a remarkably strong, active man, being in the habit of lifting heavy weights, &c., for wagers. I should mention that he says drinking so freely after markets was his ruin. Eight years ago, he returned to London, and got employment as a plumber, which he continued till this illness. He is of about average height, and the body well set, the limbs firmly placed. His complexion is now very pale and sallow, and countenance anxious; his eyes light-brown, and sunken; his hair dry, lank, and brown in colour. All the teeth but two molars on the left side are gone from the upper jaw; in the lower jaw, there is a perfect set of teeth, but the gum is absorbed, leaving the fangs quite clear. He is desponding with regard to his state. His parents were remarkably healthy; his mother died at the age of seventy-four, his father at seventy. On the mother's side, his grandfather died at near seventy, grandmother nearly as old, but exact age not known. The patient has been married four years, but has no children; his wife is only thirty years of age. He says he has had no disease of his genital organs for the last fifteen years, but previously to that he had several gonorrhœas and chancres also; once he had a bubo, which did not burst. For his venereal diseases he took mercury, at six different times at least, not always, he says, to the extent of salivation, but always enough to make the gums sore and the teeth tender. Whilst an apprentice as a plumber, he had colic once. He has had two slight attacks of gout in the great toe of the left foot—once about a year after he returned to London, and was following his business of plumber; the other, *about four years ago.* At this period, he first felt a dull, aching pain across the loins, which has been more or less continuous ever since. *Two years ago*, he lost blood by the rectum, for the first time to his knowledge; "it was then enough to splash about the pan of the watercloset;" and this continued more or less till *eighteen months ago*, when, being confined as to his bowels, he took some aperient medicine, which about nine in the morning began to operate. He went five times to the pan, but he passed nothing but pure blood; in the space of about half an hour, two quarts of blood came away, "feeling warm and silk-like;" it was clotted. The loss of blood caused him to faint twice. He then got to bed, and after remaining quiet about a quarter of an hour, he, at half-past ten A. M., passed a copious, perfectly clear motion, "not firm, but fair." He now gave up work, from weakness and pain in the loins and limbs. He now also, for the first time, experienced pain in the fundament, at first of a smarting but afterwards of an aching character, not much increased by going to stool. *About seventeen months ago*, he went into Middlesex Hospital, supposing he was suffering from internal hæmorrhoids. He was not examined per rectum, but put upon sulphur baths and electuary, and kept resting on his back. He was discharged relieved. The hæmorrhage did not recur for about a fortnight after his leaving the hospital. *About fifteen months ago*, he went to the Fistula Hospital, City-road, and was under the care of Mr. Salmon, who told him he had a cancer, after examining him per rectum, gave him sulphur and treacle, &c. He gradually got worse, but remained under Mr. Salmon's care four months. *About eleven months ago*, he applied as an out-patient to the Cancer Hospital at Brompton, which afterwards removed to Piccadilly, and was there under the care of Dr. Marsden and Mr. Weeden Cooke. *About nine months ago*, he, having become gradually weaker, was unable to walk to the hospital, but his wife continued to fetch medicine for him. He now took to his bed, but got up a little every day till *about three months ago*, when Mr. Stuart and Mr. Canton visited him and examined him per rectum with a large bivalve speculum. *About two months ago* he had difficulty in passing his urine, and Mr. Stuart drew it off with a catheter, and told him, if he had any difficulty again, to ask for the No. 6 instrument. They gave him good nourishment, and aperient medicine, and passed a rectal bougie at first about every third or fourth day; but the obstruction having gradually increased, he has increased the frequency of its use, and he now passes it daily.

Present condition.—Nov. 17th, 1856.—The patient's appetite and digestion are remarkably good. His bowels required strong saline aperients to make them act. Through life his bowels have been regular, never having had to take medicine to keep them in order. He did not observe the stools to diminish in size till about five months since.

Condition of Rectum.—At the anus protrude two moderate-sized pale red piles, and a rather abundant, sanious, offensive-smelling discharge comes from around them. On introducing the finger into the rectum, there is considerable pain experienced by the patient; the finger comes in contact with a hard swelling, extending all round the gut, which it involves further than the finger can reach. There is difficulty in passing the urine, which is accompanied with pain and smarting at the end of the penis; this is always more or less constant. The urine comes away with the stools, and then only, so that it is almost impossible to obtain any for examination. He is very weak, and rolls about from the pain, "wishing to have something done to put him entirely out of the way." His intellect is quite good, and no symptoms referable to the cerebro-spinal centre. Pulse weak, 81. Ordered three ounces of senna confection, to be taken every morning. Diet: chop, two pints of milk, one pint of beef-tea, and one pint of porter.

18th.—The patient had two motions yesterday. Considerable pain this morning; wants something to be done; proposed Amussat's operation for artificial anus. Continue diet and senna confection.

19th.—The bowels were opened twice yesterday, and once this morning; the urine was passed at stool with much straining. His general state is as described above. Half-past two P.M.: Having been put under the influence of chloroform, Mr. Erichsen made an incision about four inches long, extending from within an inch and a half of the lumbar spines outwards nearly to the left lateral median line. It was parallel to and between the crest of the ilium and the last rib, but somewhat nearer to the rib. Having divided the skin and the cellulo-adipose tissue, and the anterior border of the latissimus dorsi muscle, he divided the external and internal oblique and transversalis muscles on the director, also a portion of the quadratus lumborum. He then dissected through a considerable quantity of cellulo-adipose tissue, which existed between the abdominal walls and the intestine, and with difficulty found the colon, which he pierced with a needle armed with fine whipcord, and drew forward. He then opened it with a pair of scissors, and Mr. H. Thompson, on passing his finger into it, came to fæcal matter, some of which was adherent to it when he withdrew it. The edges of the gut and external wound were brought together by means of sutures, two above and two below. The rest of the external wound was closed with two more sutures. The whole was covered with wet lint, and the patient put to bed on his left side.—Five minutes past three P.M.: As he was recovering his consciousness from the effects of the chloroform, his pulse was 72, moderate.—Half-past three: He is complaining of much pain. Ordered one drachm of opium mixture to be taken immediately. Mr. Stuart informed us that he has been accustomed to take very large quantities of opium.—Quarter to four: The patient is very querulous, whining loudly, and declares he is in the greatest agony, and complains of a sensation of constriction round the body, as if he were tied to the bed, and repeatedly asked to have it removed. Ordered hydrochlorate of morphia, one grain, to be taken immediately.—Quarter-past four: Pulse 66; becoming less noisy with his pain.—Five minutes to five: Pulse 72.—Quarter to six: Repeat hydrochlorate of morphia mixture.—Eight: Pulse 72, same quality as before operation. He complains of considerable pain over the abdomen, but there is no tenderness on pressure. Apply hot fomentations. Ordered two drachms of opium mixture immediately.—Ordered two grains of hydrochlorate of morphia immediately.—Twenty minutes to eleven: The pulse 72; pain in the abdomen is less than when the fomentations were ordered. He lies diagonally on his right side and back; this he finds the most comfortable position; he is quieter and more composed. Neither fæces nor flatus, the patient states, have passed through the artificial anus.

20th.—Nine A.M.: Slept for nearly two hours during the night, the grain of morphia having been repeated at three A.M. and at seven A.M. He feels rather more comfortable this morning; has had less pain in the rectum since the operation. Nothing has escaped from either the wound or the gut, both of which look healthy. He lies diagonally, as described last night. He complains of pain in the left iliac fossa. Pulse 90. A warm poultice was applied over the wound, and also to the left iliac fossa.—Half-past two P.M.: He has been put on to a spring bed, and looks and expresses himself as being more comfortable. He is now lying on his back. Pulse 104, intermitting regularly every fourth beat. The morphia was repeated at ten A.M. and one P.M. He refuses to take any nourishment, either solid or liquid, but seems tolerably cheerful; "thinks he shall be able to eat an egg to-morrow." He sank, however, exhausted in the course of the night.

Post-mortem examination, fifteen hours after death.—(Nov. 21st.)—Being placed on his face, the left lumbar region was dissected into the abdomen. We found the descending colon opened, and its edges connected with those of the external wound. It was much contracted, being considerably smaller than the small intestine which projected on either side, and was of the usual yellow or buff tint, while that of the colon was greenish. The body being placed on its back, the thorax and abdomen were opened. The lungs were healthy, but the bronchial glands somewhat enlarged. The heart was pale and flabby, the valves healthy; under the microscope it was questionable whether it had undergone any fatty degeneration. The small intestines presented on their surface a small quantity of lymph, and some slight capillary injection. They were somewhat enlarged and distended, but contained very little fæcal matter. The mesenteric glands were enlarged to a moderate amount. The lumbar glands were not enlarged. The large intestine was healthy, but presented an opening about eighteen inches above the sigmoid flexure. Scybalæ were found in considerable quantity below the opening; some also existed above. The opening was through the portion of colon uncovered by peritoneum. The rectum for the distance of four inches above the anal opening was involved in its whole circumference with ulcerating nodular masses of scirrhous tubercle: the whole was of a pale yellow colour. Close about the cancerously diseased portion of the gut there was a large quantity of arborescent and capillary congestion, which was quite black; the congestion extended upwards for nearly seven inches, gradually becoming less marked. The tissue of the rectum between the cancerous masses was much softer than normal. (The preparation is put in the College museum.) The right kidney had undergone fatty degeneration to a considerable extent, having a greasy feel and a yellowish tint, and presenting masses of apparently pure yellow tint, the line marking the separation between the tubular and cortical substance being almost obliterated. The left kidney presented the same characters, only in a less degree. The spleen was slightly enlarged, and of a light colour. The liver was pale, rather soft and flabby, and presented several yellowish masses (varying in size from that of a large pin's head to that of a small bean) scattered through its substance, which, on section, grated beneath the knife, and which appeared to be cysts, with thick, hard walls, containing a creamy material, which, under the microscope, presented no compound nucleated cells, but a large number of fibro-plastic cells with strongly-marked nuclei, closely resembling prismatic epithelium; fat, in the form of both globules and granules; cells filled with granular matter. The gall-bladder contained about ten drachms of thin, dark, dull-yellow bile, in which was found a mass of black colour, gritty to the feel, and mulberry-like on the surface. It was composed of granular matter and rhomboidal plates of cholesterine.

I wish particularly to point out to you, gentlemen, that the operation in this case was performed with a different object to that for which it was originally brought before the profession. It was done, not to rescue the patient from impending death resulting from intestinal obstruction, but in order to prolong existence by removing a source of constant suffering and irritation; and, although we did not succeed in our object, the operation is a proper one in such cases, and has been performed with the happiest results by M. Amussat, and by my friend Dr. Pennell of Rio Janeiro, and others, under similar circumstances, the patient surviving for years in a state of considerable comfort. The artificial anus *itself* is much less annoying than would at first appear, as it is readily kept closed by means of a truss, the pad of which is applied over it.

In the performance of the operation itself there was no difficulty, until the anterior layer of the fascia transversalis was exposed. On opening this, layers of cellulo-adipose tissue presented themselves, and on successively incising these, a large quantity of loose fat was exposed, which, rising and falling with the respiratory movements, offered a somewhat embarrassing obstacle to the search for the intestine, which was completely contracted and empty. In carefully working our way through this mass of fat, partly by dissection, partly by tearing it asunder, the gut was exposed, and could be distinctly recognised by its greenish-grey colour and firmer feel, showing out in very evident contrast with the yellowish-buff colour of the contiguous tissues.

With regard to the cause of death in our case, I can only account for it by its being the effect of exhaustion, resulting from a prolonged operation, in a person labouring under extensive organic disease, and suffering from what at the time we were not aware of—viz. advanced granular degeneration of the kidneys—a complication which I believe to be almost inevitably fatal in all cases in which the abdominal or pelvic organs are subjected to operative interference. It is this state of the kidneys that is so common a cause of death after operations for hernia, stone, or urethral stricture, leaving a low peritonitis and diffuse inflammation of the cellular plains. I believe, also, that it is a condition in which chloroform acts very unfavourably, disposing the patient to continued nausea, depression and exhaustion, from which he does not rally, but sinks in a few hours or days without complete reaction having come on.

Original Papers.

ON THE MENTAL, NERVOUS, AND CONVULSIVE DISORDERS, TRACEABLE TO PHYSIOLOGICAL OR PATHOLOGICAL CONDITIONS OF THE SEXUAL ORGANS IN WOMAN, AND MORE ESPECIALLY TO THE OVARIA.

By Thomas Lightfoot, M.D.

SECTION I.

The sexual organs in woman regulate and influence her social condition to an extent still greater than the corresponding organs in man, and much beyond what science and moralists generally admit. As a rule, they form the essence of her existence; on their sound condition depends her health. The savage, the uneducated Arab, semi-civilized Turk, the rajah, and the Brahmin, with minds crushed into a hopeless non-progressive condition by the conventionalities and the ceremonials of forty centuries, all entertain of woman but one idea—of woman when she has passed beyond the natural years of childbearing. As a wife, they respect her; as their first wife perhaps they honour and esteem her; but her matronly status they know has ceased, and they select a younger person.

The all-important organs in man, the reparatory male organs or testes, are connected with his nervous centres by nervous cords so fine as to merit no attention in respect of mere bulk; it is even questionable if any nervous filaments can fairly be traced in the substance of these bodies. The same remark applies in some measure to the ovaria, which hold to woman the corresponding relation of preparatory sexual organs; but they are merely corresponding organs; they are neither analogous nor homologous; they are antagonistic organs, in fact, having nothing in common with the male system at any period of embryonic life, never convertible into any other, nor the result of any transformation out of any other, organ or set of organs; the ovaries exist as independent bodies from the first. Their true relation, it is true, to the Wolfian organs has not yet been fully made out, a doubt hangs over the nature of these bodies, but, be this as it may, at no time of embryonic existence can the ovaria be esteemed the analogues or homologues of the sexual organs of man.

Philosophic doubts may unquestionably still be raised as to the extent of influence exercised over the cerebro-spinal axis of woman by the minute filaments of nerves connecting her ovaria with it; the connexion, whatever it be, is even probably not direct, but indirect. But, be this as it may, we have no other theory to offer, no other theory to fall back upon. To disturbances, then, communicated to the nervous centres of woman by means of the filaments of the sympathetic system of nerves connecting the ovaria to the medulla spinalis, we must ascribe not merely a host of disorders, but numerous physiological and pathological conditions, all bearing more or less on her moral and social condition, on her health and happiness. Involved in the inquiry, or at least difficult of separation and distinction, is the influence exercised by various conditions of the other sexual organs,—namely, the oviducts or Fallopian tubes, the uterus and vagina, the external sexual organs,—complicated by structures whose presence, indicative of embryonic conditions, forms the most remarkable chapter in the history of animated beings. Nerves proceed from all these organs, towards the nervous centre, the medulla oblongata; they unite with it, some directly, others indirectly; they convey to it, and through it to the brain, healthy feelings or the opposite. The physiological links are wanting to enable us to trace mechanically some, at least, of these results to their cause; but their effects we know; and the "nervous theory" is the only one offering a rational explanation of their origin.

Case 1.—A lady, verging towards forty, and enjoying a fair share of the comforts of life, complains of the following symptoms. She says that she loses flesh and appetite daily, and has done so for some time. Discharges, which are at least vaginal, if not uterine, have seldom been absent for the last eight or ten years. She married about six or seven years ago a gentleman in delicate health, who died in two or three years of consumption of the lungs. Whilst married she miscarried once of something considered to be an abortion. The vaginal discharges were present long before marriage, and continued unabated after it. The lady improved for some time under the use of stimulants and a more generous diet; exercise in the open air was clearly of benefit to her. But on the approach of the second winter, as soon as rigorous cold set in, she became dropsical, her menstrual period had ceased about five months previously; wasting of the frame continued, terminating in extreme emaciation and death. An active mercurial treatment prescribed for her to remove the dropsy hastened no doubt the event.

This case is a type of thousands. The functions of the ovaria were never called forth, and the accumulated weaknesses and losses of years told heavily on her at a time when all her strength was required—namely, the period of cessation of the menstrual period, of that secretion which, whether it be viewed as a cause or an effect, or both, informs you precisely of woman's condition. As the ovaria then ceased their functions—for this is the real history of the case,—the strength of her frame gradually declined, and she died, unequal to bear up against the revolution marking in woman the entire change of her moral and physical nature.

It is easier to see that with a happier marriage her life might have been prolonged by thirty years, for she in reality had no organic disease. The cessation of the ovarian functions, characterized generally, though not perhaps always, by a corresponding cessation of the menstrual flux, causes or is accompanied by complaints having more immediate relation to the heading of this chapter. As illustrative cases must be known to every physician, I offer the following merely as a type of the disorder, or of results originating in causes which we yet but imperfectly understand.

Case 2.—A middle-aged married woman, mother of four children, strong and robust, continues in the most perfect health until about thirty-eight years of age; her youngest child is perhaps about six. At this time the menstrua continued unabated, and she had never suffered from unnatural utero-vaginal discharges at any period of her life. The symptoms which first appeared were nervous: she easily became agitated; was timid without any reason; became giddy; lost her memory; and lastly, fell down in a state of insensibility. All this was at first but momentary, or at least brief; not frequent, but reappearing at distant intervals. In a year or two afterwards the symptoms became much more aggravated, though still of the same character: she fainted suddenly, falling instantaneously, as if she had been shot dead; the nervousness became daily worse and worse; her mental faculties were now impaired; and she died at forty, miserably imbecile in mind and body.

Now this I believe was an ovarian affection connected with, first, the cessation of their functions, and secondly, with the approach of woman's great climacteric period. The case is the type of many set down as diseases of the spinal marrow, of the brain, and of the uterus. The uterus was perfectly sound, and there was no organic disease whatever.

The cessation of the ovarian function is the most remarkable and the most dangerous period in woman's life. It tests her whole constitution and the treasure of her life, her vital powers—in fact, her powers of endurance. It is otherwise with man, whose corresponding organs exercise over him no such influence as in woman. In man, the testes may be imperfectly developed and never functionally useful, or at puberty may remain weak and unequal to their functions; still the general health does not suffer. We have seen that it is quite otherwise with woman. In man, the testes obey no particular laws as to the cessation of their functional career; they gradually become less and less, imperceptibly as it were. There is no crisis, no violent change; no revolution in the constitution.. Even in the prime of life it not unfrequently happens that, from some unknown cause, the testes gradually wither and decay, their functions cease, their structure disappears; yet such is the health and strength of the individual, that it were impossible for any, even of his most intimate friends, to conjecture that organs so important to the species, at least, if not to the individual, had ceased their functions, and were to him as if they had never existed, saving, always, a moral despondency, occasionally showing itself in those so circumstanced. Contrast the following case with a corresponding one in woman:—

Case 3.—A healthy young man, strong and muscular, applied to me for advice. He was at that time about twenty-four or twenty-five years of age, and never had laboured under any serious ailment. About two years before I saw him, the right testicle became suddenly painful and swollen; it continued so despite all remedies. At last the pain subsided, the testicle began to decrease in size, and finally wasted away to such an extent that on examination I could with difficulty make out more than a portion of the epidydimis. And now, after two years from the first attack, the left testicle suddenly becomes painful and swollen, and with the same results which happened to the right. In the mean time the general health remains unaltered.

Now had the ovaria ceased their functions in this way, the whole frame of the individual would have suffered; the health become deteriorated; the nervous system severely shook; and uterine and vaginal discharge and disease would have become a constant symptom of a condition tending to dissolution. I shall contrast such cases in a future part of the chapter, showing by such contrast the wide difference there is between the power of the ovaria over woman, and of the testes over man. The maternal period in woman seems to form her whole destiny; the existence of females of many of the lower animals ceases with the period of reproduction. Woman, as belonging to the highest species of organised beings, continues to live after that period, sharing with man his intellectual being. But it is to her maternal life to which Nature looks, that being with her the object of woman's creation.

Case 4.—A married man, active, healthy, muscular, of unblemished constitution in all respects, consulted me for an infirmity under which he had laboured for several years. He had been married sixteen years, and was himself about the time he asked my advice thirty-eight. His wife was about the same age. The family consisted of three daughters, of whom the younger was nine. On inquiring how it happened that no more children appeared, I learnt from the husband that about a year after the birth of the youngest daughter he began to lose, without any assignable cause, his virile powers; the testes became greatly diminished; his health, strength, and muscular vigour remained perfectly unaltered, but he was anxious about the restoration of those functions he had lost, and resorted to all descriptions of empirical remedies, but in vain.

In the one case, that of the husband, in the very prime of life, in the enjoyment of the most perfect health, without any substantial reason, the testicular action and function had ceased. As in the preceding case no reaction is felt by the cerebro-spinal, nor by any other system: the loss of the presence of the seminal fluid in the circulating mass is never felt.

Contrast this with the lady, his wife, in whom the ovaria had not ceased their functions, but their actions had merely been deprived of their natural stimulators: had continued to regulate menstruation, and monthly to throw off ova, as some suppose: and yet in her the nervous system is deeply affected. Utero-vaginal discharges are never absent: there is pain in the back, a sense of lassitude harasses the patient, and life instead of being a pleasure has now become a burden.

SECTION II.

When the ovaria cease their functions, the uterus also brings its labours to a close. At this period the constitution is tried to the utmost; organic disease of the lungs appears; cancers in various organs; diseases of the heart; dropsies. Of these I do not mean to speak here, but shall confine myself exclusively to the complaints announced in the heading of this memoir. If the organs have been called on or permitted rightly to perform their functions during the matronly period, disease is not greatly to be apprehended. Nevertheless, we have seen a case where the cerebro-spinal axis or nervous centres suffered severely in a married person who had borne children, and had enjoyed up to that period the best of health. These centres sympathize deeply with the sympathetic or ganglionic system of nerves, which supply mainly the vital organs. The sensations, it is true, are indirect, and the reaction, as in the heart, intestines, womb, &c., that is, the motor power, is not placed at the command of the will; nevertheless, there cannot be a doubt that all the nervous power of this system is ultimately derived from the cerebro-spinal axis. We may receive as partly true the theories of Bichat respecting independence of the ganglionic system and its nervous cords or filaments, whether peripheral and excentric, or merely inter-ganglionic; or centrally communicating, that is, passing directly to the cerebro-spinal axis without doubting the fact proved by a thousand pathological considerations, that the system is subordinate in a sense to the central organs of the nervous system. It is true, we know not the functions of the sympathetic system of nerves; that the first living experimentalist, M. Magendie,* threw out a doubt at one time as to the nervous nature of the sympathetic system, and hinted that, after all, perhaps it was not composed of true nervous matter.

But against such extreme views of those—namely, who doubt its nervous character, and of those who think it wholly independent of the cerebro-spinal axis, the experience of practical men points to the middle view, which we adopt. Science, like all human affairs, moves in circles, in proof whereof we may adduce the late experiments intended to show that the action of the uterus for the expulsion of the fœtus and its appendages—or, briefly, that the parturient action—is not regulated directly by the cerebro-spinal axis, a fact which has not been doubted by a single practical man during the last hundred and fifty years. We want no experiments on sows or guinea-pigs, mares or dogs to prove this; and even were it so, woman does not belong to any of these species of animals. The deep influence, direct and indirect, reciprocal or not, as the case may be, sentient or motor, receives no explanation from such terms as respiratory system of nerves, "reflex action," &c. The phenomena were just as well understood before the invention of these terms as since. The period of cessation of the ovarian action, usually called cessation of the menstrual flow, is productive of other disorders in addition to the one I have more especially described. Hysteria often comes on, the paroxysms are frequent, and the person becomes extremely nervous and agitated on the slightest occasions, seemingly even without a cause. It is as if the matron was lapsing into a second girlhood. The mother of a large family may require to be treated at this period like a young person—delicately, tenderly, and with every consideration. She probably even labours under utero-vaginal discharges, which, however slight, always distress and annoy her. She has been visited possibly by the medical attendant, who prescribes injections, washes, syringe, and strengthening.

It is the spinal marrow, or rather the cerebro-spinal axis, which suffers, sympathizing with the sexual organs about to undergo their second great constitutional changes, and he mistakes the case for abrasion, inflammation, ulceration of the cervix uteri and vaginal tube.

Local remedies avail but little here. It is to constitutional treatment alone, aided by time, that we must trust; to frequent changes of locality, and variety of employment and amusements. The matron must be treated as a maid or young person. The ovarian functions go off with symptoms similar to those which ushered them in—namely, palpitations, timidity, nervousness, hysteria in all its Protean forms. As regards mental, and perhaps physical treatment, the mode, to a certain extent, must be similar.

There must be no harshness, no misconception, as to the real nature of the disease; no mistaking it, on the one hand, for a purely nervous affection, originating in a premature disorder of the nervous centres; or, on the other, for a purely local disease, with nervous symptoms not meriting notice. All such ideas are incorrect, and lead to malpractices, of which every physician in extensive practice must be cognizant.

Before I conclude the diseases which accompany or usher in the period of ovarian action—the other great climacteric of female life—I venture to offer the following case as a type of the hysteric disease preceding its departure :—

Case.—A lady, mother of six children—the eldest sixteen, the youngest six—herself now approaching forty-five, becomes, without any apparent cause, nervous, agitated, and hysterical on the slightest occasion; is dissatisfied with the attention shown to her, fancies her husband rough and unkind; she gets thinner, sleepless, and what may be considered troublesome. Amiable and good-tempered naturally, the complaint—which is, in fact, hysteria—assumes no violent form mentally or physically; but, acutely sensible to the slightest appearance of neglect, it were easy to precipitate such a person into a dangerous malady. For the vaginal discharges with which she was troubled, she had been recommended injections of various kinds and sizes without any avail. The introduction of a metal speculum, but without any inspection, removed the discharges, and frequent visits to and from friends, change of scene and place, careful attention to all her wants, with due exercise, removed in a short time all her complaints.

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* Dead since this paper was composed.

In such cases, where local disease is not present, the object is to gain time, to do no mischief by drugs, and to prevent, if possible, some serious attack by sympathy on the nervous centres. To gain time is all the physician aims at, sensible that he is not combating a disease, properly so called, but a climacteric revolution, which may prove fatal in despite of all remedies, and which, while it lasts, is no way under his control. At the period which we usually term puberty, come when it will, the influence of the ovarian functions is first felt by the condition of the entire frame, and the actual strength or condition of that frame reacts favourably or unfavourably, as the case may be, on the functions of the ovaria.

It is difficult to decide, occasionally, on which side the fault lies, and consequently the general and local symptoms of disordered health may be mistaken for a result of the non-action of the ovaria, whereas it often happens that this imperfect development of their functions is but a test and a proof of the feebleness of the constitutional powers. But before I consider this difficult question—for such, no doubt, it is—let me speak first of that aggravated form of hysteria clearly arising from the disturbed ovarian function, coinciding with the approach of puberty, and terminating occasionally in death.

CASE.—A girl, well-grown, healthy-looking, and about fourteen years of age, becomes hysterical; the paroxysms increase in violence daily, and seem almost epileptic, requiring several persons to restrain her violent and convulsive motions. In despite of every remedy, the disease gets daily worse; the druggist's range is exhausted, and she dies before the establishment of that function (the ovarian) which no doubt would have greatly relieved, if not cured, her afflicting malady. A most minute examination of the body after death gave no indication of organic disease. In the intervals of the paroxysms she complained of intense heat over the region of the back of the neck.

Such cases are very common, but the patients seldom die; on the contrary, the ovaria at last assume their functions to a certain extent, known by the establishment of the menstrual flow. The hysterical symptoms go on, at times better at times worse. The patient, perhaps, marries fortunately and happily, and is altogether relieved of her malady by producing a family; or the marriage is not happy, and the symptoms continue for life. Utero-vaginal discharges establish themselves, and she resorts to drugs and advice to cure that which neither advice nor drugs can cure, however they may relieve. She languishes miserably through her matronly period, destined never to be a mother, never to enjoy a moment's health. The forms which the diseased sympathies assume with years are not always hysterical, strictly so called; at times it is catalepsy, at times epilepsy, at times nervous symptoms, as they are called, admitting of no definition.

CASE.—A young woman, seventeen years of age, tall, fleshy, but not robust nor muscular, has been occasionally afflicted with the following symptoms ever since she was fifteen, at which period the menstrual discharge was established. Whilst moving about the house at her employment, she will suddenly fall like a corpse. To look at her in this state you might suppose her dead. All animation, motion, breathing, pulse, seem suspended or scarcely to be perceived. After an uncertain period of time, extending occasionally to half an hour, she recovers herself, evidently enfeebled by the shock she has received. At other times this young lady, whilst walking about, would suddenly become cataleptic, motionless, rigid, firm, and upright, and as unbending as a statue. In this cataleptic condition she generally continued for a few minutes. But the disease, originating no doubt in imperfect ovarian development, never assumed the hysterical form. She married at eighteen, and had a family of six, with many miscarriages. The complaint appeared from time to time, though very rarely during her life, but with diminished intensity; and the cataleptic symptoms disappeared at the age of twenty-two, and did not return.

It is right to add, that she had an only brother who died at fifteen, somewhat idiotic, or at least weak in mind. The evil results of a forced celibacy in this and similar cases need not be questioned. On the frequency of similar cases, more especially assuming the hysterical form, I need not dilate, they must be well known to all physicians.

But other diseases arise under similar circumstances. I have already treated of some of these diseases in a former memoir, and I therefore offer the following case, not with a view to illustrate the evil effects of a non-development of the ovarian function, from whatever cause that may arise, but rather to bring before the reader one as a type of cases known to be intractable in the highest degree.

CASE.—A young lady, tall, slenderly-formed, of childish appearance in face and in person, though fully formed and in no way deficient in intellect, consults a physician under the following circumstances: She complains of constant bad health, vaginal discharges, pain of the back, lassitude, weakness, menstrual flow irregular, scanty, at times interrupted. She passes through several hands, and the materia medica is at length exhausted. The physician last consulted recommends marriage, which advice is followed, but her health does not improve, and she dies seemingly consumptive at twenty-seven.

The non-development of the ovaria was probably, in this case, merely a symptom of general bad habit, of a feeble constitution, which told on the ovaria as on all the other organs of the body; on the skeleton even, for the pelvis was small and seemingly disproportioned, or too narrow for the stature. She died at twenty-seven,—a critical period in man, but more so, perhaps, in woman. She is then, or ought to be, in the prime of life. To twenty-seven she grows in stature and increases in bulk; from that period she descends in life, having passed that great period in her existence which she can never see again. It is with her, then, a critical period, which she may not pass over unless her hereditary constitution be tolerably sound. It resembles what thirty-six is in man; he is then in the prime of life, arriving at this culminating point later by nine years than woman. That culminating point with him also is critical and dangerous. To dwell on this would be quite misplaced here. I do not feel disposed to say more on the history of hysteria dependent on ovarian irritation extending from thirteen to fifteen; its general character must be well known to all physicians. My object is rather to trace it to its real source; to examine some difficulties, and to excite attention to further inquiry. With a single additional remark I shall therefore conclude this part of the section. When puberty appears, when the ovaries enter fully on their action, the young person, from being thin, lean, and unattractive, without form or beauty, may become in a few weeks or months, a person of transcendant beauty and of the grandest form, full of grace and unaffected dignity; prudent, tender, affectionate, thoughtful,—perfect already in mind and in body. To bring this about, the original proportions, not merely of all the features to each other, but also of the great divisions of the torso to its respective parts and to the limbs, and of these latter to the torso, are modified. When these original proportions, over which no ovarian development can exercise the smallest influence, are good, the beauty then of the individual may assume, and does assume, the highest order, and the being becomes for a time almost perfect.

But to sustain these noble forms for a few years, nay, even for a few months, seems more than the natural constitution in most women is equal to. Latent germs of disease, hereditary or otherwise, are called into play, against which the terms of perfect development may struggle in her case in vain. The axillary glands swell, cutaneous disease appears, the nose and mouth enlarge, and the features alter exceedingly; all this may happen quite independently of marriage. But these are changes, the tracing of which belongs rather to the physiologist than the physician; and, resigning them to his consideration, I proceed next to trace rapidly the history of that most serious of all maladies—namely, mental alienation, examining into its history as a consequence and a result of disturbed, diseased, and impeded ovarian action. This the most lamentable of all the morbid sympathies, originating, as it frequently does, in diseased ovaria, in disturbed function of these all-important organs, of impeded development by forced celibacy, occasionally occurring even in the married, and then probably due to an excessive activity in their action; this calamity, when it assumes the terrible form of mania, disturbing all the perceptions, judgments, and actions of the individual, may be traced, as we shall find, to the ovaria in cases wherein hitherto these organs had been in no way suspected. But I am reminded by many cases which at this moment occur to me, that this very disease, mania, is occasionally preceded by epilepsy, or at least by epileptic forms of hysteria. Let me briefly, therefore, before concluding this section, consider the epileptic form of hysteria arising from ovarian disease, ovarian irritation, ovarian excitement, and which no doubt has so frequently been mistaken for true epilepsy.

Of the Protean forms of hysteria I had thought all practical men were sufficiently aware. How it puts on, imitating to the life, nearly all other forms of disease, from the simply hysterical laugh to the all but maniacal scream. Thus it imitates trismus, hæmoptysis, pleurisy, pleurodynia; diseases of the heart, of the liver, of the joints, of the brain; hepatitis, peritonitis, hysteria, pericranitis, dyspepsia, gastrodynia, epilepsy. I had thought that all physicians had known this well; but a suspicion arises in my mind, at least in regard to the last of its imitations, epilepsy, that this form at least of its multitudinous imitations is not well understood. The hysteric form of epilepsy arising from ovarian irritation is simply hysteria: it is not epilepsy. When engrafted on a feeble constitution, liable to head affections, hereditary or otherwise, it may in some rather rare cases become decided epilepsy, but this is undoubtedly a rare occurrence. True epilepsy is not a common disease in woman; and to consider and treat the hysteric epilepsy originating in ovarian irritation as true epilepsy is to mislead the profession and the public, and to confound diseases diametrically opposed in their nature, and to injure true pathology.

True epilepsy is but too often of hereditary origin; it springs from disease or diseased functions of the cerebro-spinal axis; its course is from the centre towards the circumference; it can seldom originate in any radiation of diseased sensation from the periphery to the centre; lastly, when the case is carefully observed, it can scarcely be mistaken for the hysterical form of epilepsy, or what may be termed hysterical, epileptic convulsions. Convulsions, unhappily, we think, called epileptic, occur in pregnant women, and are supposed to originate in toxæmia, meaning, by the new-invented term, poisoning of the general mass of blood by means of the lochia or by organic disease of the kidney caused by the pressure of the pregnant uterus, or simply by pressure on the renal veins, independent of any organic disease.

These hypotheses, for they are merely such, may or may not be true; future extended experience can alone decide this point; in the meantime, it is to be regretted that such convulsions are called epilepsy. It is also still rather problematical to view the osteophytic spicula deposited on the inner table of the skull (frontal bone) as being a frequent cause of epilepsy, or of epileptic convulsions, seeing that such spicula occur, I believe, in many persons who have not been known to labour under such disorders. Ovarian irritation is not, then, a frequent cause of epilepsy, perhaps never as a cause but in the predisposed. It would seem, according to the views of Rokitansky, that there is at each period of pregnancy an osseous deposit on the inner surface of the cranium, and that this, in fact, is a normal condition. Now, we doubt the fact, if it be meant to be universally applied, though admitting its occasional occurrence. As to the "peripheral extremities of the intra-cranial nerves," I know nothing of them, but shall be glad to admit their existence when demonstrated.

The intra-cranial osteophytes, then, of pregnant women have still to be proved to be a normal condition. They vary, as it is well known, in extent and amount; when numerous, projecting irregularly inwards, and pressing on the dura mater, they may prove a cause of true epilepsy, or even of convulsions assuming an epileptic character. But this subject requires a much more extended inquiry than has yet been given to it. The toxæmic theory of puerperal convulsions is contradicted by the plainest facts.

ON THE COMPOSITION OF BREAD.

By William Odling, M.B., F.C.S.

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In fulfilment of the duties of my situation as Medical Officer of Health for the parish of Lambeth, I have recently directed my attention to the quality of bread supplied to my fellow-parishioners. I have examined twenty-five specimens, each procured from a different baker. Until the completion of the entire series of experiments, I was ignorant of the prices of the specimens and of the shops at which they were purchased. The loaves were two-pound loaves, obtained *new*—that is to say, during the day on which they were baked. The top crust of each loaf was sliced off, and then a layer about two inches thick removed, trimmed at the edges, and submitted at once to examination. The results are as follows:—

Water.—The two highest determinations of water indicated 46·71 and 45·42 per cent. respectively; the two lowest determinations gave 38·62 and 41·06 per cent. respectively; the mean of the twenty-five determinations gave 43·83 per cent. as the average amount of water existing in the crumb of new bread.

Saline Matter.—The two highest determinations of the amount of ash yielded by the dry bread were 2·90 and 2·62 per cent. respectively; the two lowest determinations gave 1·54 and 1·87 per cent. respectively; the mean of the twenty-five determinations gave 2·30 per cent. as the average amount of ash in dry bread, or 1·30 per cent. in freshly-baked bread. The average amount of dry substance in bread being, according to my experiments, 56·17 per cent, a two-pound loaf would yield 7863·8 grains of dry substance which, calculated from my average, would give 180·8 grains of ash. Inasmuch as dry flour yields, on the average, 1 per cent. of ash, 7863·8 grains of flour would yield 78·6 grains of ash, which, being subtracted from the 180·8 grains, yielded by the two-pound loaf, would leave 102·2 grains of introduced saline matter consisting principally of common salt and alum.

Nitrogen or Gluten.—The prevalent opinion amongst physiologists is, that the nutritive properties of bread are in proportion to the amount of its nitrogenized constituents, though, indeed, the correctness of this opinion has been called in question by two eminent agricultural chemists, Messrs. Lawes and Gilbert. The two highest determinations of nitrogen that I have obtained are respectively 3·42 and 3·21 per cent. in the dried, or 1·89 and 1·83 per cent. in the freshly-baked bread; the two lowest determinations are 1·66 and 1·81 per cent. in the dried, or 0·93 or 1·01 per cent. in the freshly-baked bread. It is observable that the highest determination is *more* than double the lowest—a circumstance by which I was at first much surprised. On referring, however, to published analyses of flour, I find that the amount of gluten varies from 7 to 15 per cent. The mean of all the twenty-five estimations gives 2·23 per cent. of nitrogen in the dry, and 1·26 in per cent. in the freshly-baked bread. My average of nitrogen in freshly-baked bread corresponds very closely with the prior determinations of Dr. Playfair, and Messrs. Lawes and Gilbert.

Alum.—Alum was detected in eighteen out of the twenty-five samples. No estimation was made of the quantity; but, from the appearance of the precipitates, I should distinguish three loaves as containing very much, and three as containing very little, of this impurity. The very extended use of alum in bread, is in itself almost an evidence that some benefit accrues to the baker from its employment. The probability of its exerting an injurious effect upon the consumer, must depend materially upon the quantity introduced. Whatever may be our opinions upon the subject, however, we have, it must be confessed, no positive evidence that the habitual use of alum in bread is, or is not deleterious.

The qualities attributed to alum by different bakers vary considerably. I believe that one great effect of alum is to hinder the transformation of starch into sugar, during the process of baking. Two years ago, I had sent to me for analysis, a loaf which was sticky, saccharine, and sodden throughout, but which had been made from apparently good flour. In the autumn of last year, I received from Tring, in Hertfordshire, a sample of flour which was unadulterated, which contained the normal quantities of gluten, starch, dextrin, &c., each of good quality, which had, in fact, only one fault—it would not make bread. The result of the baking was a sweet, sticky, dark-coloured mass. The wheat from which these two flours had been prepared, had, doubtless, undergone a partial malting, with the consequent formation of diastase. Between such specimens as these, and the most perfect flours, every gradation exists. The object of the baker being to retain as much of the starch as possible, with its chemical and physical properties unadulterated, he probably finds this object best attained by the addition of alum, which substance I have found experimentally to interfere greatly with the transformative powers of diastase. Of the seven samples of bread which did not contain alum, two were cheap loaves obtained from the bakehouses of two large associations of workpeople, and four were full-priced loaves purchased at old-established shops of high repute.

Copper.—In seven out of the twenty-five samples, the presence of *copper* was detected. These are, I believe, the first cases on record in which English bread has been shown to contain copper. I should be loth, however, to charge London bakers with the intentional sophistication of their bread with blue vitriol, unless it could be clearly proved that the presence of copper was otherwise inexplicable, or unless we had positive evidence of the fraudulent introduction of the cupric salt. The probabilities in favour of the accidental presence of the copper are—1st. That in three of the samples containing copper, no alum was detected. Those who would adulterate with copper would probably adulterate with alum also. In two of the above cases, however, the copper was in the most minute traces. 2ndly. That copper is a very widely distributed element, and that it might possibly, though somewhat improbably, have been introduced in the salt, alum, yeast, &c., or have resulted from the use of copper utensils. The probabilities in favour of the fraudulent introduction of copper are—1st. That sulphate of copper has the reputation, probably well founded, of exerting a powerful effect in facilitating the fermentation, improving the appearance, and increasing the water-retaining powers of bread. The specimen of bread which yielded me the highest percentage of water contained copper. 2ndly. That in four of the specimens, at any rate, three of them containing alum in addition, the amount of copper was sufficient to effect its ascribed improvements.

The experiments upon which the above observations are founded were performed as follows:—The nitrogen was determined by a slight variation of Will and Varrentrap's method, as modified by Peligot. This consists in a combustion of the bread with soda-lime, and an estimation of the amount of ammonia produced, by means of standard solutions. For the detection of the alum, about 500 grains of bread were incinerated. To the resulting ash, weighing generally about six or seven grains, two or three drops of chlorhydric acid, with a few drops of water, were added. After a short ebullition, an *excess* of solution of potash, usually amounting altogether to five or six drops, was added. The filtrate was then acidified with chlorhydric acid, and slightly supersaturated with ammonia, whereby the alum was precipitated. The potash had been purified by solution in alcohol prior to its solution in water. From an ounce of its aqueous solution, a trace of alumina could be precipitated, but the quantities of solution used in the above experiments gave no indication whatever of impurity. The advantages of the above-described process are, that the quantity of the reagents is reduced to a minimum, and that the whole of the alumina existing in 500 grains of bread is concentrated in less than a drachm of liquid. Aqueous infusions in each of the alumed breads had markedly acid reactions, probably from bisulphate of potash, and yielded considerable precipitates of sulphate of baryta. For the detection of the copper, about 500 grains of bread were incinerated to a white ash. This was treated with chlorhydric acid in a small platinum capsule, and then an electrolytic action established by the introduction of a piece of zinc, so as to touch the platinum through the liquid. The metallic deposit on the platinum, when treated with a drop of ammonia, yielded a blue liquid, which, after neutralization, gave a decided chocolate-coloured precipitate with ferrocyanide of potassium. The metallic deposit, the blue solution, and the red precipitate were obtained in each of the seven cases.

Addendum.—Since writing the above article, I have again obtained bread from five out of the seven bakers whose loaves previously yielded me copper, and in each instance have again detected the impurity.

February, 1857.

OBSERVATIONS ON THE ARCUS SENILIS,* OR FATTY DEGENERATION OF THE CORNEA.

By Edwin Canton, Esq., F.R.C.S.

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PART VIII.

Of the Hereditariness of the Arcus Senilis.—

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[*] "The pulse, the periphery of the skin, the secretions and excretions, cannot be justly appreciated in diseases without taking at the same time into consideration the different symptoms which the eyes present. It is only by submitting the eyes in diseases to the same examination as we use to investigate other parts of the body that our researches will become important and fruitful."—J. F. D. Lobstein, M.D.: a Treatise on the Semeiology of the Eye, p. 41. New York, 1830.

"The arcus or circulus senilis, is often an important visible sign of the tendency to this degenerative change in the system. I have found it present in about nine-tenths of the cases in which I had reason to infer the existence of fatty degeneration of the heart."—C. J. B. Williams, M.D.: Principles of Medicine. Third edition, p. 447. London, 1856.

It has been truly observed by Dr. Barnes,* that "our acquaintance with fatty degeneration is too recent and too little advanced to admit of any extended investigation into the transmission of this disease to successive generations; and I propose, in the present observations, to adduce a few facts which, whilst they seem to bear closely on the hereditariness, under certain circumstances, of this peculiar affection, may stimulate to further inquiries into a branch of pathology upon which so much light has recently been shed, and from the yet deeper investigation of which so much practical advantage may be reasonably anticipated.

In adopting the words of Sir H. Holland,† I may remark, that "it is unnecessary to point out the important relation to practice of all that concerns hereditary tendency to disease. The subject is one that meets us at every step, and to which our attention is perpetually required as an exponent of symptoms, as affording some of the most certain means of prognosis, and as directing us, in many particulars, to the right course of treatment. No judicious physician will neglect the resources hence derived, which are, in truth, essential to sound and successful practice."

The category of hereditary diseases, unhappily, includes many maladies—as phthisis, cancer, &c.,‡ which yet defy the best directed skill of the most able practitioners, though aided by the extended improvements of modern medicine. There occur also other affections which, whilst owning an hereditary origin, are found to be less certainly fatal, and more amenable to treatment—e.g., gout, rheumatism, &c. These complaints—as such—are not *connate*, but that particular blood-crasis of the parent is inherited by the child, which, at a certain period of its life, and according to the nature of the affection transmitted, shall be eventually developed into the malady itself, which gradually budding forth, as it were, now flowers from those latent but securely sown seeds of disease, the germination of which, though tardy, is not the less certain.§ The progressive steps which had insensibly led to the perfectly formed disease in the parent, have but been repeated in the offspring—have but "grown with his growth, and strengthened with his strength." The various periods of his existence have not been more regularly attained than have the different stages of the ingrafted, and now matured, malady been arrived at. The offspring is born in likeness to the sire; inherited health impresses him, and time only strengthens the resemblance of facial lineament, bodily form, and vigorous constitution. Must we not, then, at once accord a blood-likeness also, both in its development and its growth? In the substitution of *disease* for *health*, the proposition equally applies—the blood-likeness must be equally acknowledged.* The word *consanguinity* admirably expresses the physiological and pathological bearings of close relationship. Mr. Simon† has well observed:—"And whereas, it is in the blood more strikingly and more constantly than in any ingredient in the organism that development is ever in progress: whereas, it is eminently in the blood that we have at each moment an epitome of the whole development of the body, and find the earliest rudiments, and the latest reliques of every organized tissue, nascent, or in decay. So surely, it would be in this fluid—the scene, or the subject of so many developmental metamorphoses—that one would expect to find the material explanation of many hereditary diseases."

It is very generally acknowledged that in proportion as the offspring more nearly resembles the father or the mother in features, form, disposition, &c., so will he be more likely to partake of his or her constitution, whether it be of a healthy or unhealthy character. On his arriving at that period of life when that parent suffered from any such affection as finds place amongst the hereditary diseases, he also will *very probably* be similarly afflicted.‡ It is nevertheless true that the child may escape the threatened evil, but such instances must be regarded as exceptive. Should, however, both parents be the subjects of the same form of hereditarily-transmissible malady, the chance of immunity from it is so far diminished for the offspring, that his inheritance of the taint becomes, as nearly as may be, certain.

That which is true in respect of the curtailment of life through communicated disposition to disease is equally a fact, on the other hand, as regards unusual prolongation of existence where hereditary longevity characterises the progenitors, or that parent especially to whom the child bears the closer resemblance.§ "The slow and silent

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"It has been too hastily assumed that the arcus senilis so frequently co-exists with fatty degeneration of the heart that the change in the cornea affords presumptive evidence that the more formidable disease is making progress within We protest against this hasty assumption."—G. Johnson, M.D.; British and Foreign Medico-Chirurgical Review, p. 369. April, 1856.

[*] Medico-Chirurgical Transactions. Vol. xxxiv., p. 192.

[†] Medical Notes and Reflections, p. 42. London, 1840.

"Mille fois j'ai eu le plus grand regret d'ignorer l'histoire des maladies des familles qui étaient confiées à mes soins. Je ne doute pas que cette connaissance m'eut été utile pour les traiter mieux."—A. Portal: Considération sur la Nature et la Traitement des Maladies de Famille et des Maladies Héréditaires, p. 87. 3me édit. Paris, 1814.

[‡] "Novi in hac urbe familiam in quâ omnes certa ætate schirrum accipiunt et hoc malum ab ovo parenti liberis est communicatum uti et familiam ubi omnes certa ætate icterum accipiunt et sic orta postea hydrope moriuntur. Novi etiam aliam familiam ubi omnes primo satis faceti, sed certa ætate in melancholiam incidunt."—Boerhaave: Prax., sect. 485.

[§] "The predisposition of the offspring gradually evinces itself more strongly at certain ages than at others, according to the kind of morbid constitution or predisposition which it may inherit, the causes to which it is exposed, and the nature of the malady which results. Thus the predisposition to hydrocephalus, convulsions, idiotcy, rickets, scrofula, cataract, &c., is most apparent soon after birth, and at early epochs of life; to epilepsy, hæmorrhage, and pulmonary consumption, about the age of puberty, or previously, or soon after; to gout, asthma, and angina pectoris, in adult and mature age; to insanity, apoplexy, paralysis, during the mature or advanced stages of life; and to various nervous disorders at more irregular periods."—J Copland, M.D.: Dictionary of Practical Medicine, vol. i. p. 558.

[*] "As man, perhaps, the moment of his breath
Receives the lurking principle of death,
The young disease which must subdue at length,
'Grows with his growth, and strengthens with his strength.'
So cast and mingled with his very frame."

[†] Lectures on General Pathology, p. 171. London, 1850.

[‡] "Et mihi videtur, si pater major fuerit plus de patre; si major mater plus de matre, superesse."—Haller; Element. Physiol.

[§] The Hungarian family of John Rovin were remarkable for their longevity: the father lived to 172, the wife to 164. They had been married 148 years, and their youngest *child* was 115. Millingen:

work of deterioration begins earlier in some constitutions than in others," observes a talented writer,* "and varies in families as in individuals, notwithstanding wide differences in the habits and modes of life, as if from an original conformation; and it is thus that we must account for the well-known and well-established fact, that, barring accidents, the general duration of life tallies in families, with few exceptions; some reaching threescore years only, others five years over that, and others, again, reaching seventy, and from thence to longevity."

With respect to certain congenital abnormalities, whether consisting of excess or deficiency, it is well known that they manifest a strong tendency to become hereditary, and are often repeated in successive generations. Familiar illustrations may be seen in instances of supernumerary fingers or toes, or the junction of two or more of them where the number is normal. I have at present an old man under my care in hospital, in whom the second and third toes of both feet are united together. He is the father of four sons and four daughters: in all the former, precisely the same peculiarity exists as in himself; the girls, however, are exempt from the malformation, and equally so are their paternal uncles and aunts. It is not known whether the father and mother of my patient had this conjunction of toes. Dr. Watson states that a great number of individuals of the family of Zerah Colburn, the American calculating boy, descended from a common ancestor, have six toes and six fingers. The peculiarity was transmitted through four generations. "I am acquainted," says the author,† "with a gentleman who had the misfortune, some years ago, to have a bastard child laid to his charge. At first, he had some misgivings on the subject, and suspected that he might have no real title to the credit (or, I should rather say, discredit) of the imputed paternity; but all his scruples were satisfied when he found that the child had six fingers on each hand; for he had himself presented two small supernumerary fingers, which had been amputated when he was an infant."‡ Space will not permit me to do more than remind the reader of that singular variety in the general law of the hereditariness of congenital malformations, which has been styled by Duchesne—Atavism.

Defects of vision, as cataract, amaurosis, leucosis, chromatodysopia, &c., are not uncommonly transmitted. The eyelids and eyes present us with many curious examples of congenital malformations which are, in a large number of instances, hereditary. The *arcus senilis* is said to have been seen at birth.* I doubt, however, the correctness of the statement, but believe that a circumferential opacity of the cornea has been mistaken for it—the remains of the originally clouded condition of the part—an abiding opacity which implies only an arrest of development. That the arcus may be hereditarily conferred, and appear at remarkably early ages, the following interesting case will prove.† I may remark, however, before detailing it, that I do not assume to have adduced in the above observations, any original matter, but endeavoured merely to collate and arrange such facts as I thought might bear upon the subject more especially under consideration, and to refresh the memory of the reader on certain points with which he has most probably become already familiar.

CASE 10.—Four years since, W. B——, aged sixteen, became a patient of mine at the Royal Westminster Ophthalmic Hospital. He was a slim and rather delicate-looking lad, complaining of dimness of vision, which was always considerably worse by gas light. The pupils were more dilated than natural, but not fixed; the eyes free from undue vascularity; the scleroticæ somewhat more bluish than usual; tension of globes normal, and no hallucinations of sight were experienced. In both eyes the *arcus* was present, each cornea presenting a well-marked half-circle of fatty degeneration in the upper segment, and an arch to less extent developed in the lower one, but perfectly distinct. The rim of cornea surrounding the arches and placed between them and the edge of the sclerotica is perfectly translucent, and through it the iris is clearly visible. The patient is not aware for how long a period the arcs have been present, but there is no doubt they must have been for some years forming, to have arrived at their present degree of development. The lad complained of debility; shortness of breath on going up-stairs, and occasionally had a sharpish, twitching pain in the sternal region, especially after exertion. The hands and feet are cold and the pulse more feeble than natural. Sleep sound and dreamless; appetite good. Under a course of tonic medicine, vision became perfect and the general health much amended. I have occasionally seen W. B—— since the above date, and in December, 1856, he came to me in great distress of mind, in consequence of the dragging and dull, heavy pains he experienced in his testicles, which he fancied were wasting. He acknowledges to the practice of onanism since the age of twelve

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Curiosities of Med. Experience, p. 454. Second Edition. London, 1839.

Vide also an interesting paper by Dr. Webster, "On the Patriarchs of Pinner," in the Journal of Public Health, Oct. 1856.

* Travers: A Further Inquiry concerning Constitutional Treatment, p 11. London, 1835.

† Lectures, Med. Gaz., p. 282. 1840.

‡ "Very frequently is the irregular form transmitted from the parents to their children and grandchildren, and even becomes permanently hereditary; even the more peculiar vices of the parents, whether congenital or acquired from disease, are sometimes inherited for many generations. We find this especially the case with reference to the extremities—*e.g.*, six fingers and toes, or the junction of them, occurs in whole families. The irregularly-increased number of parts is more common in the upper half of the body: on the contrary, in the lower their consolidation is more frequent."—Otto: Compend. Pathol. Anat., trans. by South, p. 17. London, 1831.

* Mohrenheim mentions a case of peripheral opacity of the corneæ in a child whose mother had a remarkable development of the arcus senilis in the corresponding segments of the cornea.—Dissert. Inaugur. de quibusdam materiæ et formæ oculi abberationibus a statu normali. Halæ. 1799.

Sybel says—"I know a man, aged thirty-two, who has this pearl-coloured ring in both eyes, and which is probably congenital."—Reil's Archiv. für die Physiolog. 5 B. 1 heft.

Eggert remarks that the arcus is sometimes found in newly-born children.—Grafe and Walther's Journal, vol. xviii. p. 415.

† "Omnis morbus hereditarius est in habitu, non contracto per assuetudinem, sit per nativem constitutionem: sed habitus per assuetudinem adquisitus transit in naturam, quæ difficulter removetur."—Mercatus: De Morbis Hereditar. T. ii., p. 675. 1619.

to that of eighteen. Dr. Hyde Salter kindly saw him for me, and favoured me with the following account:—"W. B——, aged twenty; under the middle height; weight 8st. 10lb.; has well-marked arcus senilis in both eyes; complexion veiny; lips tumid and rather congested; voice feeble; expression sombre and somewhat depressed. Suffers occasionally from languor, but chiefly from depression and lowness of spirits, and easy excitability. Pulse 72, of tolerable power; no intermission nor irregularity. The effect of position is as follows, in a quarter of a minute: lying, 18; sitting, 21; standing, 24. *Heart:* Position of impulse natural; appearance sharp; sounds normal but rather short; no irregularity of any kind."

Family History.—Paternal grandfather died, aged seventy-two, of old age; paternal grandmother, aged fifty-four, of "internal causes:" maternal grandfather, aged sixty-seven, of asthma; maternal grandmother, aged sixty-three, of "grief." Father of W. B——: aged fifty-three years; of middle height; weight, eight stone; a spare, careworn, flabby man, with a deeply-furrowed countenance, and thoughtful, anxious expression. In each eye there is a *circulus senilis*, as deeply pronounced in colour and broad in extent as in the oldest subject in whom I have ever examined it. He was well-to-do in business until twenty-seven years ago, when its failure reduced him to penury, and for many years afterwards his struggles for subsistence and the maintenance of a wife and increasing family were numerous, varied, and arduous. In conversing with him his manner is apathetic, and occasionally I have found that when he becomes a little animated the pulse intermits. From his having latterly been suffering from cough and dyspnœa, he has received the advice of Dr. Hyde Salter, to whom I am indebted for the following statement:—"This patient, though considering himself tolerably well, complains, as his principal symptom, of a cough, from which he has suffered from his boyhood. It is at times better, but never completely leaves him for long together. His present attack dates from about five weeks ago. It is accompanied, generally, with a good deal of expectoration, which he characterises as a 'white froth,' but sometimes it is yellow and thick. He complains also of pain in the scrobiculis cordis, which appears to be associated with the cough and greatly aggravated by it; but whether the pain there is the cause of the cough, or the cough of the pain, he cannot say. The pain is sometimes severe when the cough is not. He says he has sometimes a wheezing or rattling in his chest, but is free from it now.

"*Physical Examination.*—Respiratory movements feeble; chest collapsed and small, but symmetrical. Resonance on percussion perfect everywhere. Respiratory murmur very feeble, but without any great differences in corresponding parts of the opposite sides; rather stronger, however, at the lower than the upper parts of the chest, and feeblest of all at the right apex, where there is a little expiratory sound, of a slightly bronchial character. No moist or dry sounds.—*Heart.*—Apex beat not visible in the usual situation, but strongly marked at the scrobiculis; nor to be felt between the fifth and sixth ribs, but in the scrobiculis forcibly; the percussion-dulness marking its situation proportionately lowered. Heart-sounds short and clear; impulse sufficiently strong; no irregularities nor intermissions.

"What struck me particularly was the general appearance of the patient, and especially the expression of his countenance. It had an appearance of fatigue, depression, and *fag;* was furrowed and shrunk, and gave me the idea of exhaustion—of overtax of powers; and the unvaryingly favourable answers respecting his conditions and feelings, together with a sort of forced energy of movement, gave me the impression that he was putting the best face on matters. I conclude from this man's symptoms—the occasional attacks, ever since his childhood, of shortness of breath and cough, attended with wheezing and expectoration—that he has been throughout his life subject to bronchitis, and that the attacks have left his lungs permanently, though slightly, damaged. The resonant percussion, absence of bronchial sounds, and displacement of the heart towards the scrobiculis, would make me think that this damage is emphysematous, were it not for the small, collapsed chest, the very reverse in its figure from that of emphysema."

Mother of W. B——, aged forty-nine; weight, 7st. 10lb.; of darkish complexion, with eyes sunken, and surrounded by broad, deep-coloured areolæ. The countenance is wrinkled by premature age, and wears an expression of care and distress, though she has no complaint to make of bodily ailment or mental suffering. Each cornea presents a *circulus senilis*, peculiarly striking from its great breadth and dense opacity. Her history is to some extent told in that of her husband, to whom she was married when twenty-seven years of age, and a family of seven children ensued. The first child she suckled for twelve months; the second, for fifteen months; the third, for two years and three months; the fourth, for two years; the fifth, for thirteen months; the sixth, for two years and four months; and the seventh lived to be only five months old. When misfortune overtook her husband, she resorted to needle-work for a livelihood, and was commonly engaged at it from daylight to dark. During all this time, she says she felt weak and languid, and the work not unfrequently failing, she was often in want of the necessary amount of food to satisfy her hunger; she seldom could obtain beer, and her beverage consisted for the most part of tea and coffee. She has lost three of her children: the one above mentioned died from inflammation of the chest; another at the age of three years, from scarlet fever; and the third, when twelve months old, from convulsions. Four children yet remain to her—three boys and one girl, of the respective ages of twenty, fourteen, eleven, and six years. The history of the eldest (W. B.) has been given.

Children.—H. B——, aged fourteen; a well-grown, comely, and apparently healthy lad. *Arcus* very distinct in both eyes; most pronounced in the lower segment of the cornea; but not developed to so great an extent as in his elder brother.

F. B——, aged eleven; an intelligent boy, apparently in good health. *Arcus* well defined in each eye in the upper and lower part of the cornea, but to a less degree than in either of his brothers.

J. B——, aged six; a pretty, slimly built, and delicate-looking girl. *Arcus* completely wanting in both eyes.

Congenital junction of toes.—The mother has the second and third toes conjoined in both feet, and precisely the same peculiarity obtains in H. B—— and J. B——. None of the other chilpren had or have this peculiarity.

Montague-street, Russell-square, 1857.

THE DANGER OF ALL ATTEMPTS AT ARTIFICIAL RESPIRATION, EXCEPT IN THE PRONE POSITION.

By **Marshall Hall**, M.D. F.R.S., &c.

OF THE INSTITUTE OF FRANCE, ETC., ETC.

I HAVE shown, in a previous paper, not the inutility only, but the *danger* of the *warm bath* in the treatment of apnœa or asphyxia. I now proceed to demonstrate the danger of all attempts at the induction of artificial respiration—the special remedy against asphyxia,—except in the PRONE position.

If the asphyxiated patient be moved and placed in the supine position, in which no attempts at artificial respiration can be effectually made, what is the condition of the rima glottidis, or entrance into the windpipe? Is it *free*, so that air may be pressed or drawn into it? And if apparently free, does it remain so at the moment when an effort to force or draw air into it is made?

1. Is the tongue so securely situated, all muscular energy having ceased, as neither to *fall* backwards nor to be *drawn* backwards, and so close or obstruct the orifice and entrance into the windpipe?

2. Is there no accumulation of mucus, or other animal fluid, or of fluids from regurgitation from the stomach, which may also obstruct the glottis? nay, more, which may be forced or drawn into the windpipe, inducing a *second* and fatal suffocation?

No one can say, *à priori*, that one, or even both, of these events may not occur. These are not only possible, but probable,—not *only* probable, but inevitable under certain circumstances.

There is one fact of the utmost importance. When, from any circumstances, the nervous and muscular powers are in abeyance, nothing is so common as regurgitation from the stomach, from change of position, compression, &c. Under such circumstances, compression of the sides of the thorax would certainly be apt to produce this effect. Now, in the supine position, the matters so regurgitated would remain in the fauces, obstruct the glottis, or, when the pressure was removed, be drawn into the windpipe. Leroy's mode of attempting to effect artificial respiration, of which a sketch is given by the Royal Humane Society in its Reports, is utterly ineffectual; but, if effectual, would be replete with danger. The only certain safeguard against such a fatal accident is—*the* PRONE *position.* In this position, the tongue tends to fall forwards, and all fluids flow from the fauces and the mouth, or are expelled by the first induced expiration.

All this is reasonable, *à priori.* But we must not rest here. Our appeal must be to *facts*, not to mere notions. The facts must be ascertained by careful examination of the dead subject.

1. What *is* the position of the *tongue* when the body has been roughly moved about and laid in the supine position, all cadaveric rigidity of the parts being overcome by previous movement of this organ backwards and forwards?

2. What is the further position of the tongue in the supine position, at the moment of attempted inspiration, first, by means of the bellows, or, secondly, by the removal of the pressure on the ribs or sternum, and the consequent dilatation of the thorax?

These facts may be ascertained by removing the tissues on one side of the neck, so as to give a lateral view of the tongue, glottis, epiglottis, and pharynx, and by replacing them by a portion of transparent glass of the proper size and form, properly placed and carefully maintained in its position.

The first part of this examination has been already made: The subject being placed in the supine position, and the lateral parts of the neck being removed, so as to admit of observing the relative position of the internal organs—the tongue, the epiglottis, the glottis, the pharynx,—it was seen that obstruction to the entrance of air actually *did* take place.

I now propose to place a piece of transparent glass so as accurately to close the cavity and allow of the observation, first, of the effect of *position*, the supine and the prone comparatively, and then of any attempt to induce *inspiration.*

A similar examination of this internal in reference to fluids present in it (and we never can know when such fluids are present) is unnecessary: fluids will gravitate to the lowest parts of a cavity, and will be drawn into an open orifice, such as the glottis, under the influence of air forced or inhaled into it. And such an event not only renders all attempts at *inspiration* nugatory, but induces a permanent because material obstruction of the entrance in the windpipe.

In confirmation of these views I again appeal to experimental *facts*:—

"The following experiment has been repeated *many times*, and has been witnessed by George Webster jun., Esq., of Dulwich; Mr. Williams, superintendent of the Royal Humane Society, Hyde-park; and other gentlemen:

"The dead subject being placed in the *supine* position, and pressure made on the sternum and ribs, a little gurgling was heard in the throat; but, the pressure being removed, there was *no* evidence of *inspiration*."

Now let us contrast with these abortive attempts to induce artificial *in*spiration in the *supine* position, the beautiful and life-giving results—*in*spiration and *ex*piration—of alternate rotation from the PRONE position and repronation. I continue the quotation:

"The subject being then turned into the PRONE position, and pressure being made on the spine and the ribs, and removed as before, there were free expiration and *in*spiration."

Far more marked is the effect of pronation and rotation:

"The subject was turned into the prone position: considerable expiration took place, which was much augmented by pressure of the hands on the back. On removing this pressure a little inspiration took place. The body being then rotated on the right side, considerable inspiration again took place, whilst moving through one fourth of a circle; on continuing the rotation, inspiration continued until the shoulder was half-way between the lateral position and the table, when it ceased."

These are the *original* experiments. They are extracted from a little pamphlet entitled "Abstract of an Investigation into Asphyxia," &c., and now out of print.

I conclude by observing that the principle of *prone respiration* is of such importance as to demand a new designation to impress it on the attention and the memory: I propose to term it PRENOPNŒA.

The number of cases of apnœa and asphyxia, the effects of *chloroform*, which have been rescued by the "Ready Method," and of which I have received authentic details, now amounts to THREE. The last of these was communicated to me by an eye-witness of the operation, which consisted in tenotomy in a little boy, aged about four, under the influence of the anæsthetic; suddenly the child turned pale and ceased to breathe, and looked as if it were dead. Cold water was dashed on the face, and other ordinary measures were adopted utterly in vain. The Ready Method was now instantly adopted and efficiently applied: after the first inspiration produced by rotation after pronation with pressure, the mouth was observed to open and air to be inspired; the movements were repeated, physiological respiration commenced, the little boy cried, and all was safe.

I conclude the momentous subject by several *aphorisms* in regard to the treatment of asphyxia:—

1. The effects of suspended respiration can only be removed by the renewal of respiration.

2. Artificial respiration can only be certainly, effectually, and safely performed in the PRONE position; for,

3. In the *supine* position the larynx is apt to be obstructed by the falling back of the tongue and epiglottis, or by the accumulation of fluids already in the mouth or regurgitated from the stomach.

2. These fluids may be *fatally* inhaled into the windpipe when *in*spiration is mechanically effected.

5. All other measures are subsidiary, even the rubbing the limbs with pressure upwards; and all which exclude respiration are, *ipso facto*, destructive; the *warm bath* is of *doubly fatal* tendency,—first, by excluding pronation and rotation, and secondly, by promoting the formation and the circulation of the blood-poison—carbonic acid.

ON THE VARIOUS RULES PROPOSED FOR THE TREATMENT OF APNŒA (OR ASPHYXIA).

By MARSHALL HALL, M.D., F.R.S.;

OF THE INSTITUTE OF FRANCE; ETC., ETC.

To the Editor of THE LANCET.

SIR,—I cannot but think that a great step in advance in medical practice has been made by the improved treatment of Apnœa (or Asphyxia), from whatever cause it may arise; and this cause, as my readers know, is so multifarious, as to make the question one of great extent, as well as importance.

To begin with the beginning, I would observe that the new term apnœa (from *a, priv.*, and πνεω *spiro*) is a vast improvement over that of asphyxia (from *a, priv.*, and σφξω *pulso*).

Apnœa signifies—want of respiration. Now, the want or absence of respiration naturally suggests the *want* or *need* of respiration; and this, in fact, is the one idea which ought to guide us in practice.

But asphyxia signifies want of pulse, and under this idea nothing would so naturally suggest itself to the vulgar mind as the *warm bath*, and this accordingly, with other modes of inducing warmth, has been the panacea in cases of drowning, &c., until it has at length been demonstrated that this measure is not only of positively fatal tendency in itself, but negatively by excluding the true remedy—artificial respiration.

And here let me mention, *in limine*, that by the warm bath I mean the warm bath as, to use the Royal Humane Society's own definition, "preferable to other means of *restoring warmth*." The *sudden* application of heat, and the *alternate* application of heat and cold, are very different affairs, *recently* brought under our notice, not as "preferable to any other means of *restoring warmth*," but as potent *excitants of respiration*, never suggested as remedies for asphyxia, or rather for apnœa, until *recently*.

I now proceed to lay before my readers three documents: the first is the Royal Humane Society's *former rules* for the treatment of asphyxia; the second, *modified rules* for the same object, recently, and not very modestly, proposed for adoption by that Society; and the third, my own *New Rules*, contained in a little pamphlet printed and presented by me to the Royal Humane Society *intermediately*, together with *special rules* for the treatment of the asphyxia of the still-born.

FORMER RULES.

"1. Convey the body carefully, with the head and shoulders supported in a raised position, to the nearest house.

2. Strip the body, and rub it dry; then wrap it in *hot* blankets, and place it in a *warm* bed, in a *warm* chamber, free from smoke.

3. Wipe and cleanse the mouth.

4. In order to restore the natural *warmth* of the body, move a heated covered *warming-pan* over the back and spine.

Put bladders or bottles of *hot* water, or *heated* bricks, to the pit of the stomach, the armpits, between the thighs, and to the soles of the feet.

Foment the body with flannels.

Rub the body briskly with the hand; do not, however, suspend the use of the other means at the same time; but, if possible, immerse the body in a *warm bath* at blood-heat, or 100° of the thermometer, *as this is preferable to the other means of restoring warmth.*

5. Volatile salts or hartshorn to be passed occasionally to and fro under the nostrils.

6. No more persons to be admitted into the room than are absolutely necessary."

The one idea, seven times repeated, is—to apply warmth.

RECENT RULES.

"Convey the body rapidly to the house, the head and shoulders raised.

Place it at once in the warm bath, at 100°, up to the neck.

Lift the body out of the water, the neck and chest being bare, and dash *cold* water *suddenly* against the face, neck, and chest.

Pass *pure* ammonia under the nose.

Use *artificial respiration*, the patient being *held in the upright position.*

Pass the galvanic current through the chest, including the *diaphragm* and *the muscles of respiration.*"

Here we have respiration, excited and artificial. parts of the "Ready Method."

"These methods should occupy but a few minutes; if they fail, place the patient on the floor, and use the 'Ready Method' according to the printed directions, fully and efficiently."

What shall I say of this insidious proposition? Is it not to convert, or rather to pervert, the "Ready Method" into the unready?—so to "try" that method as infallibly, by delay, to insure its failure? The "Ready Method" insists upon the treatment being *on the spot*, and *instant.* In "a few minutes," remediable apnœa becomes irremediable asphyxia—irremediable by any method. I therefore repel the proposition utterly, and all such mutilated *trials* of the "Ready Method."

NEW RULES, OR THE "READY METHOD."

Lose not a moment of time; treat the patient ON THE SPOT, *in the open air*, exposing the face and chest freely to the breeze, except in cold weather; then—

I. *To Excite Respiration.*

Place the patient gently, and for a moment, on the face, to allow any fluids to flow out of the mouth;

Then raise the patient into the sitting posture, and endeavour to *excite* respiration;

1. By irritating the nostrils by *snuff*, *hartshorn*, *&c.*

2. By irritating the fauces by a *feather*, *&c.*

3. By dashing *hot* and *cold* water *alternately* on the face and chest.

If these means fail—

II. *To Imitate Respiration.*

Replace the patient on his face, his arms under his forehead, and—

1. Turn the body gradually, but completely, on the *side*, and *a little more*, and then again on the face, alternately;

2. When replaced, apply pressure along the back and ribs, and then remove it, and proceed as before.

3. Let these measures be repeated gently, deliberately, but efficiently, and perseveringly, *sixteen* times in the minute *only.*

III. *Continuing* these measures, rub all the limbs upwards, making firm pressure, *energetically.*

Replace the wet clothes by such other covering, &c., as can be procured.

Omit the warm bath until respiration be re-established.

Here the one idea is, the *throat* being cleared, to *excite* or *induce* respiration.

But to these "*Rules*," I must add a paragraph from the same pamphlet on the special subject of the apnœa (or asphyxia) of the still-born:

"In treating the still-born, the great object is, as usual, to *excite* respiration; this is most efficiently done by plunging it into (not a *warm*, but) a *hot* and *cold* bath alternately. This means of exciting respiration was first put to the test of experiment, at my suggestion, by my late deeply-regretted friend, Mr. Henry Smith.

"The just temperatures of these baths have not yet been determined. I would suggest from 50° to 60° Fahr. for the cold, and from 98° to 102° for the hot bath. The immersion should be *momentary;* the alternation *quick.*"

Experiments innumerable have demonstrated that if the subject be laid *prone*, and pressure be briskly made on the back, there is good *expiration;* and that if the pressure be removed, and the body be turned *on its side and a little more*, there is good *inspiration;* that if this pronation and pressure, and this removal of the pressure and rotation be instituted *alternately*, there is good—*Respiration.* These measures, then, are the true and instant remedy for apnœa (or asphyxia).

The whole may be reduced to the space of a nut-shell, and to the form of a *quasi* syllogism:

Pronation and rotation induce ample respiration;

Respiration is *the* remedy for apnœa (or asphyxia);

Therefore—Pronation and Rotation are *the* remedies for apnœa (or asphyxia).

But not a *moment*, far less "a few minutes," is to be lost; "cita mors venit, aut victoria læta." Our motto must be "*principiis* obsta;" or, in good old English, act wisely, "*instantly*," "on the spot." There must be absolutely *no* delay; no removal, no warm-bath, no galvanism; no tardy and inculpatory use of a new mode of treatment, said to be on its *trial*, but already *proved* to be effectual by the profession. Nothing, in a word, short of the *instant* "Ready Method" *on the spot*. This is the only mode of doing justice to the important subject.

Being well imbued with this one idea, let any and every subsidiary measure, such as *excitants* of respiration, the douche of hot and cold water, excitation of the nostrils, the throat, the face, the general surface; but especially pressure applied with brisk movement of the limbs upwards, to *promote* the circulation and warmth, be superadded.

And let our proceedings be marked by fairness. Apnœa soon becomes asphyxia indeed; and it is still doubtful whether any case in which the heart has ceased to beat, and this occurs in a very "few minutes," has been restored.

This fact is indeed the great argument for the instant use of our best measures.

Perhaps the still-born infant presents us with the fairest and most frequent opportunities for the due administration of remedies and observations of their true effects. Already *fourteen* cases of success are recorded. Let us carefully avail ourselves of these opportunities.

It must be remembered that there are *three* stages of asphyxia: the first, that in which respiration may be *excited;* the second, that in which respiration cannot be excited, but may be beneficially *imitated;* these are both most appropriately designated *apnœa;* the third, true *asphyxia*, that in which not even induced respiration, or all that is comprised in the "Ready Method," should be expected to do any good. But in *all* where there is a hope, this hope is realized by—*Pronation* and *Rotation*, with *Pressure* duly applied, and removed; but instituted *instantly*, and *on the spot*.

IS OVARIOTOMY JUSTIFIABLE?

By J. Matthews Duncan, M.D., &c.

LECTURER ON MIDWIFERY, EDINBURGH.

The question, whether ovariotomy is or is not an operation that should be resorted to for the cure of any class of cases of ovarian dropsy, has been recently the subject of renewed discussion in the Medico-Chirurgical Society of Edinburgh. My own opinion was there stated,[*] to the effect, that although individual cases might possibly occur, where resort to the operation was justifiable, yet that there was no class of cases of the disease for which it was a suitable therapeutic measure. The observations, however, made by myself, in that Society, require further enforcement and enlargement.

First of all, it is easy to show that the defenders of the operation in that Society have involved themselves in a dilemma. They tell us that the operation is as justifiable as any of the great operations of surgery. They sanction and commend the practice of Dr. Clay, as a whole. They admire and hold up the results of his numerous operations. They colour their descriptions of the disease with as much danger as they can make adhere to it. They do the same in regard to the alternative palliative treatment by tapping. These gentlemen, pursuing this line of argument, are in extensive practice. Taken together, they are ever seeing, I believe, as many cases of ovarian dropsy as any equal member of obstetricians that ever met to defend ovariotomy. And yet, incredible to relate, they have only one case of ovariotomy to show for years of experience in the treatment of this disease. More incredible still, the palliative treatment, which they vilify and asperse, is the treatment which, it is notorious, they adopt. The position of my friends Dr. Clay and Mr. Edwards is easily admitted as reasonable. They believe ovariotomy is a good and justifiable treatment in a certain class of cases of this disease; they resort to it and recommend it to their patients. The defenders of ovariotomy, who strove, in that Society to overthrow my reasoning in regard to it, act as I do. They have to explain how it is that their practice is different from their profession. At present they are in a position which, for character's sake, they must desert; for they defend an operation as a good and salutary measure, as saving life, and yet they do not perform it, nor do they get their surgical friends to do it for them.

It would be a difficult undertaking to *demonstrate* that ovariotomy is an unjustifiable operation, with the imperfect data now in our possession. In the sequel, it will be seen that I refer all such difficult and complicated practical questions as this to the arbitrement of professional opinion, as the ultimate resort. It is well known that professional opinion is, generally speaking, very decided against the propriety of ovariotomy, as a remedy in ovarian dropsy. But, on whatever side professional opinion might be found, it is not incumbent on the opponents of ovariotomy to do more than show how all the arguments in defence of the operation are successfully assailed. It is, however, the manifest duty of the defenders of the operation to do all they can to acquire for it the position they desire.

In framing defences in future, ovariotomists must, to use an idiom, make the operation speak for itself. The statistical arguments adduced, in form of comparisons of ovariotomy with other recognised operations, have two great sources of weakness. For, firstly, as we shall immediately point out, the statistical arguments are conducted with such looseness and disregard of logic as to destroy their value. Secondly, if the statistical arguments were well established, it could justly be objected that they prove nothing, unless it be admitted that the objects of comparison were themselves justifiable. If, for example, the statistical comparison between a hundred ovariotomies and a hundred amputations of the thigh were made to yield a result favourable to ovariotomy, it would still have to be shown that the amputations were justifiable. The fact that one operation is as justifiable as another, does nothing towards showing that either one or the other is itself essentially good.

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[*] See Edinburgh Medical Journal for February, 1857, p. 752.

All that we can, with our present data, perform, is merely to make an approximation to an argumentative solution of the question of ovariotomy. Before a conclusive proof could be led on either side, it would be necessary to settle many points in surgical ethics which have not yet been mooted in this question, but which some statisticians assume in their own favour. Some of these I shall here merely raise, without saying more than that I am inclined to to think they must be answered in the negative.

Can a surgeon or physician, with safety or advantage, bring distant statistical arguments to the bedside of a patient? Is not every case rather a matter of separate study, and to be treated by the clinical physician or surgeon apart from difficult questions of the application of statistics to therapeutics, and the results of such statistics?

Can a surgeon or physician ever dare to reason statistically as follows? I have four cases, all destined to an early death. I shall subject one patient to quick destruction in order to secure for three the ordinary chances of life?

Can a physician or surgeon ever dare to reason statistically as follows? I have four patients, all of whom may live to the natural term, but will probably die within six years. I shall subject one to quick destruction, in order to secure for three the ordinary chances of life. Has any man right so to deal with human life?

Authors, in general, treat this subject in a curiously inconsequent way. For instance, in the Medico-Chirurgical Society, Dr. W. T. Gairdner justly pointed out the two aspects, one of which most cases of ovarian dropsy presented. In the one, the circumstances of the case were consistent with continued life, and some degree of comfort; and the operation was too dangerous to be recommended. In the other, the disease was far advanced, the patient's health much injured, and the whole constitution in a state very unfavourable for the operation. But Dr. Rigby, a defender of ovariotomy, in his interesting work recently published, points out, in a similar way, the two aspects of cases of ovarian disease, and yet recommends the operation. Dr. Gairdner had never seen a case suitable for ovariotomy—a circumstance quite in accordance with his statement. Dr. Rigby approves of the operation, but so encumbers with conditions the two classes of cases of ovarian disease,—1, the generally healthy and comfortable, and unsuited for operation; and, 2, the aggravated cases unsuited for operation,—that none are left for the surgeon's knife.

Another instance may be given from the discussion in the Society. Dr. Simpson then said that "he particularly doubted whether surgeons were justified in so often subjecting patients to a great chance of speedy death, from a severe surgical operation for the removal of a disease which might still allow of the continuance of life for many months or years, before it would probably, in the common course of the malady, reach a final and fatal termination."* These remarks are, I believe, very just, and the doubt very proper. But, then, Dr. Simpson has no such remarks on ovariotomy, and no doubt about it!—an operation to which the remarks and the doubt were more appropriate than to any other.

Another illustration is too apposite to be passed over. Dr. Simpson supposes, that by Dr. Southam's table of twenty cases of tapping, he proves that one in every five first tappings is fatal. In his late speech he said he had had about thirty cases of tapping followed by injection of iodine; none of these was fatal, except one which he supposes died of the tapping, not of the injection. He is hence confined to the absurd conclusion, that while a first tapping kills one in five, tapping, followed by injection of iodine, has no evil results!

The loose and illogical use of statistics.—Statisticians are justly proud of the value of the numerical method of inquiry, and can point to many proofs of its uses and advantages. But, unfortunately, the opponents of statistics can be at no loss to find ample evidence of its being a method worthy of little confidence when wielded without sufficient knowledge and care. This has been frequently pointed out by statisticians themselves; and medical philosophers have uttered ominous warnings to their fellow-inquirers not to confide in them on questions of therapeutics such as the one now under consideration; but in vain.

The statistical argument in favour of ovariotomy has been used by Southam, Safford Lee, and with the greatest ingenuity by Dr. Simpson. It was stated, several years ago, at great length in the Medico-Chirurgical Society. It was conducted by comparing the statistics of ovariotomy with the statistics of other operations. Some of the grand errors in that statistical comparison it is necessary to point out.

1. The comparison, if intended to yield results in favour of ovariotomy, or against any other operation, must be confined to those operations, and conducted to a termination. Afterwards the like may be done in regard to some other surgical operation, and conducted to a termination. Instead of this the statistics of all surgery are rummaged for arguments in favour of ovariotomy, and a triumph proclaimed in its honour, because all the difficulties and dangers of the most severe operations are not found in connexion with it. Is it desired, for instance, to extenuate the danger and mortality of ovariotomy? Then the statistician easily adduces operations with a greater average fatality—amputations of the thigh, (and of the arm!)—ligature of the subclavian artery, or of the innominata. Is it desired to screen the

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* Edinburgh Medical Journal for February, p. 757.

difficulties of ovariotomy? Then the difficulties of lithotomy, of tying arteries, are adduced, &c.

2. For the purposes of useful comparison, it is necessary that the objects compared have their prominent characteristics in common. Any essential difference must, at least, be pointed out. But instead of this we had, for instance, ovariotomy compared to amputation at the hip-joint, or of the thigh. Ovariotomy need not be described, it has a distinct individual character. But amputations are of very different kinds or classes, and these, for all useful purposes, totally unknown, and certainly undescribed by the statistician. The comparison might justly be made in regard to mere mechanical circumstances of the amputation—thus, seventy amputations at the hip-joint have been done, and so have seventy ovariotomies! In carrying the comparison further, the statistician is but a blind leader of the blind. The average of deaths after ovariotomy is less than after amputation at the hip-joint. This proves nothing in any direction. Were the amputations for chronic disease, like ovariotomy? It is not known. Were the amputations performed for accidents, in themselves almost necessarily fatal? It is not known. Were they for malignant disease? It is not known. Were they for gangrene of the limb after fever or ligature of an artery? It is not known. In short, the whole comparison is done in total darkness.

3. For the purpose of a useful comparison, the circumstances of the operation must be nearly alike. But instead of this, the statisticians place ovariotomies, done in the most favourable circumstances, watched with the tenderest care, against operations done in hospital, on young and old, on temperate and intemperate, &c.

4. For the sake of justice, it is necessary to compare the statistical results with the antecedents of the operations. For a greater fatality in amputations than in ovariotomies is quite consistent with the amputation being, in spite of that circumstance, the more justifiable, and even, in a sense, the safer operation. For the amputations may (and very probably) have been all done in cases quickly and certainly tending to a fatal termination; and a small fraction saved may prove a far greater triumph of surgical skill than a larger number, or fraction, saved after ovariotomy. For in the ovariotomies death was possibly far from being near at hand in many, if not most of the cases, while some of the dead might have long survived but for the surgeon's knife.

If statistics are to be used in such a loose fashion as I have described, it may be truly said that by their help no absurdity need despair of evidence. But I proceed to another aspect of this method of advancing medical science.

The absurd use of statistics.—When, in the Medico-Chirurgical Society, I pointed out the statistical conclusion, that tapping was fatal to one in every five operated on, as a glaring instance of the absurdities into which statistics allured those who failed to use them aright, I was told that the great mortality in the operation attached itself to first tappings; and this formed the whole justification of Southam's well-known table. Of this table of twenty cases Dr. Simpson says:—"Fifteen of these cases had been recorded by Drs. Bright and Barlow, without apparently any view to such an investigation, and hence afforded the more valuable and unprejudiced evidence. Four of the twenty, or one in five, died from the effects of the first tapping."* It is a curious but vain endeavour to conceive how Drs. Bright and Barlow could illustrate the danger of tapping in a valuable and unprejudiced manner because they had no intention of illustrating it at all. The exposing of the real circumstances of this table, and of the arguments founded on it, will form to future inquirers a valuable warning against putting faith in statistics, when used to support any practice whose promoters are struggling for defence.

The table, then, is used by Safford Lee, Simpson, and others to show that the first tapping in ovarian dropsy is a proceeding nearly as dangerous as ovariotomy—that the mortality from it is about one in five. If Drs. Bright and Barlow had published all their hospital cases of tapping, or all their private cases, then we might have had data of some value. But what is the fact? Dr. Bright's paper, from which the table is got up,† contains the histories of twenty-four selected cases of ovarian disease, all of which (with two exceptions) are completed by accounts of the post-mortem examinations. Most of them were women coming into hospital with the disease in an advanced stage. These cases were selected by Dr. Bright, and wisely so, to illustrate the pathology and terminations of the disease. Some of them were cases of malignant disease. It is almost too ridiculous to be believed that these cases should be used in reference to the question of first or second tappings.

Of the four so-called fatal cases of first tapping in Southam's table, three are drawn from Dr. Bright's able paper in the "Guy's Hospital Reports." Let us examine them briefly:—

1. In Dr. Bright's words: "She could walk from Peckham to London and back, and she was fond of dancing.—June 18th, 1831: She was tapped in the middle line, about an inch below the umbilicus; a few drachms only of fluid came away, when a little cyst protruded, almost like an hydatid, but it was attached within and was returned; a small quantity of blood escaped. Within an hour or two of the operation she began to experience collapse, and died within twenty-four hours." This is evidently an example of death from tapping. Dr. Bright does not say it was a first tapping. It is not important to observe that it is quite an exceptional case, on account of the circumstances of the hydatid and the escape of blood, &c., &c. Moreover, it is very doubtful if palliative tapping includes cases of the operation on a woman who was a strong walker and fond of

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* Obstetric Works, vol. i. p. 266.

† Guy's Hospital Reports, vol. iii.

dancing. The title of the case makes it evident that it was related because it was fatal after the tapping.

2. This case is also selected in order to illustrate death from tapping. Dr. Bright does not say whether the fatal tapping was a first operation or not; the statisticians assume it.

3. This case was, according to Dr. Bright's account, not one of a first tapping, for he says, "the fluid in the cyst differed entirely from that which had been drawn off two months before." The case was not under Dr. Bright's immediate care, and death was the result of the first of an intended series of tappings to be tried, after a peculiar method, as an experiment.

4. To make up the four fatal cases, one is taken from Dr. Barlow's paper.* In this case, it is not stated whether the tapping was a first operation or not. Mr. Abernethy, writing of this case, said, "I do not remember a diseased ovary advancing with such continued irritability or disposition to inflammatory action." Dr. Barlow's description is as follows:—"Enlargement proceeded rapidly, but fluctuation became indistinct, and at length ceased to be felt. Much suffering was endured, which terminated in death towards the end of October. A short period before death, an attempt was made to relieve the oppressive distension by tapping, but unsuccessfully." The perusal of this case leaves the reader without the slightest ground for thinking the tapping was the cause of death; quite the reverse. Dr. Barlow's whole paper consists, like Dr. Bright's, of cases so selected as to illustrate points in the pathology of this interesting disease.

But the climax of absurdity is reached in this argument, for I find that Dr. Southam's table of twenty cases is not one of first tappings. Of the twenty, eleven had been repeatedly tapped. Nine only are *said to be* cases of first tapping. They were all followed by death, and it will puzzle the wittiest to explain why the four cases above described were selected from the whole twenty, to strike an average of one death in every first five tappings. If the table proves anything, (which I doubt,) it proves that every first tapping is fatal! and that after tapping a woman still must die some time or other!

I need say no more, for enough has appeared to show that the bases, superstructure, and uses of these statistics are not only worthless, but ridiculous. It is not my purpose at present to discuss the mortality of tapping. No doubt it has a mortality;—so has phlebotomy, says M. Velpeau.

In the discussion so often alluded to, more than one speaker disparaged what was called, very appropriately, "surgical instinct." This phrase was used to indicate the opinions of great and wise practical men, arrived at none the less surely because, to some extent, by a series of logical steps which they cared neither to investigate nor discover. The disparagement was thrown on their own profession and on themselves. It was a self-destructive act. None of them made a good defence of ovariotomy, and if they had fallen back on their opinions, would have been in some sense impregnable. The opinions of great and wise practical men are, and will be, the great resting-place of the profession and the public. These men are almost all inimical to the operation under discussion. Many of them flatly repudiate it a place in regular surgery. Others, like Professor Miller, arrive at the same result by encumbering it with impossible conditions.

Casting contempt on surgical instincts, what have the defenders of ovariotomy to offer us instead? Nothing but flimsy and fallacious arguments of the kind considered in this paper.

Castle-street, Edinburgh, Feb. 1857.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

THE NECROSIS OF CANCER.

Mr. Moullin brought before the Society two cancerous tumours of the breast, which had been enucleated by the application of chloride of zinc, the one of eight years', the other of twenty years' standing, and stated that in the present inquiry Mr. Haviland and himself had been joint labourers. Both these cases were patients at the Westbourne Dispensary under Mr. Moullin. The chloride of zinc was applied in the following manner:—The integuments covering the entire tumour having been previously destroyed by the application of nitric acid, chloride of zinc in the form of thin paste, and spread upon linen, was applied over the whole destroyed surface, and covered with cotton, which was allowed to remain till next day; the dressing being removed, incisions were now made to the depth of the destroyed parts, about one-eighth of an inch, and one-third of an inch apart from each other, causing no pain. The chloride of zinc paste, now spread upon strips of linen, was inserted in each incision, and covered over with cotton. One hour after the dressing the patient began to feel a sensation of heat in the part, which lasted for three or four hours, not at any time amounting to pain. She slept well, and next day the process was repeated, and continued for fifteen successive mornings, when the whole tumour was destroyed. Separation now commenced, and on the thirty-third day from the first application the tumour fell out, leaving a perfectly healthy surface, which has gradually gone on healing, and is now quite well. The history of each case is much the same, except that, in the second, there was a large fungous growth on the upper part of the breast. This case was also completely destroyed after fourteen dressings, and enucleated in forty days, having the same healthy appearance as the former, and progressing equally well. Two other cases are now under treatment, the result of which, with several others, will form the subject of a paper, to be brought before the Society at a future period. The first case mentioned was dressed daily by Mr. Haviland, who assisted Mr. Moullin.

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* Transactions of the Provincial Medical and Surgical Association, vol. iv.

ANOMALOUS DISEASE OF THE CERVIX UTERI.

Dr. Winn drew the attention of the meeting to a peculiar affection of the cervix uteri, which he considered to have been induced by the abuse of the speculum and caustic plan of treatment. The patient was a young married lady, who suffered after her last confinement from what appears to have been congestion and morbid sensibility of the uterus—not infrequent sequelæ of gestation. For this complaint it seems she had been subjected to repeated cauterizations of the cervix uteri. The result of this treatment has been a dilated and inflamed condition of the cervix. The remarkable feature of the case was, that the patient passed daily, and only once daily, accompanied by considerable pain, a small muco-albuminous clot. There was no leucorrhœa, but the general health had materially suffered. Under the use of tonics and the local application of powdered alum the case had improved. Dr. Winn, however, feared that an obstinate disease had been produced, which would take a long period for its removal.

Dr. Camps introduced to the notice of the Society a

CONCENTRATED LIQUOR CALCIS.

prepared by Mr. Bastick, and which possessed the following amongst other advantages:—It permits the internal administration and external use of lime in solution, without the present necessity of employing an inconveniently large quantity of fluid. It enables the prescriber to combine lime with bulky vehicles or remedies, as infusions, medicated waters, decoctions, &c., without materially increasing the volume of the dose. Its greater portability and freedom from decomposition when kept than the ordinary liquor calcis. Being sixteen times stronger than the liquor calcis of the Pharmacopœias, it may be diluted to any required strength. It removes the existing limits beyond which the strength of many external applications as lotio flava, lotio nigra, &c., it has not been possible heretofore to increase.

CANCER OF THE FOREARM.

Mr. Weedon Cooke exhibited the arm of a woman, aged sixty-five, which he had amputated a week since for cancer, which had involved the muscles and bones. The patient was doing well. He advocated the plan of proceeding in some cases, and mentioned one instance in which he had, five years since, removed an extremity of a woman affected with cancer, of the age of seventy-five. She was still alive and well.

Mr. Ross read a paper

ON THE SECONDARY ERUPTION FOLLOWING VACCINATION.

After some general observations on the obscurity of the subject, the author said, "The propositions which I shall endeavour to establish are—1st, that there are various forms of eruptive disease consecutive to and caused by vaccination; 2nd, that these eruptions appear at different periods, and are subordinate to the specific laws of the vaccinious disease; 3rd, that these eruptions are not prejudicial to the person vaccinated, but are rather evidences of the complete impregnation of the system, and of the protective efficacy of the act of vaccination. Notwithstanding the assertion by some authors that vaccination does not cause consecutive disease, the occurrence of such disease has been frequently noticed by medical practitioners; and even its varieties have been designated. Most works on Diseases of the Skin have some reference to such affections. There is not, however, any methodical analysis on record of such maladies, and they have been regarded rather as unimportant casualties than as legitimate sequences of vaccination. The desire, probably, thoroughly to establish vaccination in the confidence of the public has insensibly led to a depreciation of the after-symptoms, whereas it would have been more philosophical to examine the facts themselves, and to trace their actual connexion, if any, with the original disease. There need be no fear that the great value of Jenner's immortal discovery will be impaired by an accurate acquaintance with all its phenomena. The whole number of secondary eruptions noticed by me during the period whilst I was conducting these inquiries was nineteen, and of these the specific character was recorded in eleven; the others were adverted to in general terms as 'secondary eruption;' but I believe that the greater number, or the whole of them, were of the vesicular type. Of these eleven, one was a transient exanthem, three were papular, and seven vesicular. In three other cases an eruption appeared at the end of about three weeks, but whether these cases were attributable to vaccination or not, the evidence is not decisive. The vesicular eruptions varied much in character, sometimes being as small as millet-seeds and few in number, at other times as large as a crown-piece, and looking as if one vesicle was comprised within the circle of another. The size of the eruption was frequently that of the cow-pock at the eighth day, which indeed it very much resembled, being a vesicle with a small central depression and circumferential redness. These eruptions were always preceded by fever, which was proportioned in degree to the number of vesicles thrown out. This fact proves the constitutional character of the affection. On this point I may remark that I have several times seen patients suffering from pyrexia and general *malaise* on the day when in other cases an eruption has usually appeared; but of these I have taken no account. The pyrexia, however, has convinced my mind that the activity of the virus does not always cease with the drying-up of the pock. Even after the local action has disappeared, there are periodical changes going on in the constitution—which are, according to circumstance, of greater or less energy, and which are manifested by fever and secondary eruptions. The most important point connected with these secondary affections is their periodicity. In some of the cases the eruption appeared on the tenth day from the day of vaccination; in others on the fifteenth day; whilst, in one case, the eruption was thrown out on the tenth day, it continued for a few days, then disappeared, and was observed again on the fifteenth day. In other instances, the eruption appeared both on the fifteenth and twentieth days, or thereabouts. These cases further show the periodicity of the affection, and seem to reconcile the discrepancies between the cases that occurred on the tenth and fifteenth days respectively. Much accuracy of observation is required to fix these facts, and the reports of parents must be taken, with some allowance, and very rigidly examined. The surgeon should himself see the eruption, and he will be able to determine, after a very short experience, whether the eruption be one or two days old at the time it comes under his observation. The day on which the accompanying *malaise* occurred must be also taken into consideration. Without such carefulness as this, the surgeon may be misled as to the precise day of the occurrence of the eruption, by the report of the mother, who may have failed to notice the rash on the first day. Another source of error will be the development of the original pock; for I need not say that when vaccination is done with dry lymph, as it must necessarily be in rural districts under the existing crude and inefficient regulations, the development of the local and constitutional effects will vary from the genuine type, being often two days later than is proper—that is to say, a pock at the eighth day will be smaller than it should be, and will not reach maturity until the tenth. So frequently does this occur, that I have heard surgeons say that they prefer to take matter from a tenth-day pock, it being larger and fuller than the eighth-day pock. This is true only when dry lymph has been used, and not always true even in this case. I have known the pock to begin to be developed on the eighth day after the insertion of the lymph, and then run a regular course. These and others such are aberrations from the genuine type, and when they occur must be allowed in the calculation. Whatever variations may be observed in the secondary eruption may be referred safely to some irregularity in the primitive pock. The proper period from which to date the phenomena of vaccination is the formation of the vesicle, the symptoms anterior to this being variable. From the moment, however, that a vesicle is formed, with its attendant constitutional pyrexia, which occurs ordinarily on the fifth day, the phenomena, if the pock be genuine, proceed in regular succession, and may be safely calculated. Hence it would seem, if my observations on the secondary eruption be correct, that vaccinia, as a disease, is subject to a periodical evolution in the system, which is manifested by a critical eruption on the fifth, tenth, and fifteenth days. It is not my intention at the present time to discuss the characters of the primitive pock further than as they illustrate the phenomena of the secondary eruption. The constitutional pyrexia sets in on the fifth day, continues on the sixth, abates on the seventh, and recurs on the eighth day; it continues on the ninth, and abates on the tenth. On this day the secondary eruption generally appears. I have long held the opinion that the constitutional effects are not produced so much by the small quantity of lymph inserted under the skin, as by absorption from the pocks; these being not merely final results of certain constitutional actions, as generally supposed, but means of thoroughly impregnating the system with the virus. They are laboratories of lymph rather than mere eliminants of a poison. Hence it is that the security of the system, according to Mr. Marson's observations, is in a direct ratio to the number of pocks induced. If we open a pock with a lancet we can exhaust it of all its lymph; if we wait a little we shall be supplied with a fresh secretion; and so on for an indefinite period so long as the pock maintains its activity. If the pock be not opened, we have a right to conclude that the same process of secretion is continually going on, and the excess of lymph, instead of being evacuated, as in the former instance, is absorbed into the system. There is no reason to think that absorption does not proceed from the surface of the skin under these circumstances, whilst it is the rule on all other surfaces of the body, whether mucous or serous. In fact, the functions of every organ are sustained by a due balance between the processes of secretion and absorption in unintermitting activity. Hence the constitutional pyrexia in vaccination commences with the formation of the vesicle; and hence, too, the number of vesicles is a measure of the immunity conferred. This argument holds good, I think, in small-pox and other similar affections, as well as cow-pock." Mr. Ross then recited the particulars of several cases illustrating his views, and continued:—"I need not quote a larger number of cases, as they resemble each other very closely. A table accompanying this paper exhibits at one view all the facts I have been able to collect. It will be observed, in reference to the table, that the frequency of the secondary disease depends upon the time of year when vaccination is performed. During the summer, when the circulation is hastened, and the functions of the skin are actively performed, the consecutive eruption appears more frequently than in winter, when it is very rare. The winter is generally admitted to be an unfavourable time for vaccinating, as the coldness of the temperature depresses the vital powers, and tends to prevent, especially among the poor, the proper development of the pock. In consequence of the greater prevalence of the secondary eruption in summer, and the suspicion with which it is viewed by parents, I have been accustomed to postpone vaccination as much as possible during the high temperatures of June, July, and August; and I think it would be better if this caution were generally observed, especially with private patients, for nothing can be more disagreeable to a surgeon than to find his little patient covered with an eruption which he did not anticipate. It is fortunate that the eruption rarely continues more than three or four days, and is frequently more evanescent, a circumstance which distinguishes it from the ordinary eczematous diseases. I may observe here, that no experience on this matter can be worth much that is limited to an observation of the pock on the eighth day, as is the ordinary practice in public institutions. Hence I do not regard as of any weight the objections of those gentlemen who, with such an experience, have denied the existence of a special secondary eruption. Being Public Vaccinator for an extensive district, I vaccinate a considerable number of children every week, at the present time, yet from never watching the cases after the eighth day, I rarely hear of instances of secondary eruption; but I have not the slightest doubt that I should discover them, as frequently as heretofore, if I followed the cases up as I did when I was conducting these investigations. I think that I have now adduced evidence sufficient, if not to convince absolutely, at least to induce a strong presumption in the mind of an unbiassed man, that vaccinia, under certain circumstances, is followed by a secondary eruption, special in its nature, though various in forms, which observes fixed periods of evolution, and is an integral part of the original affection."

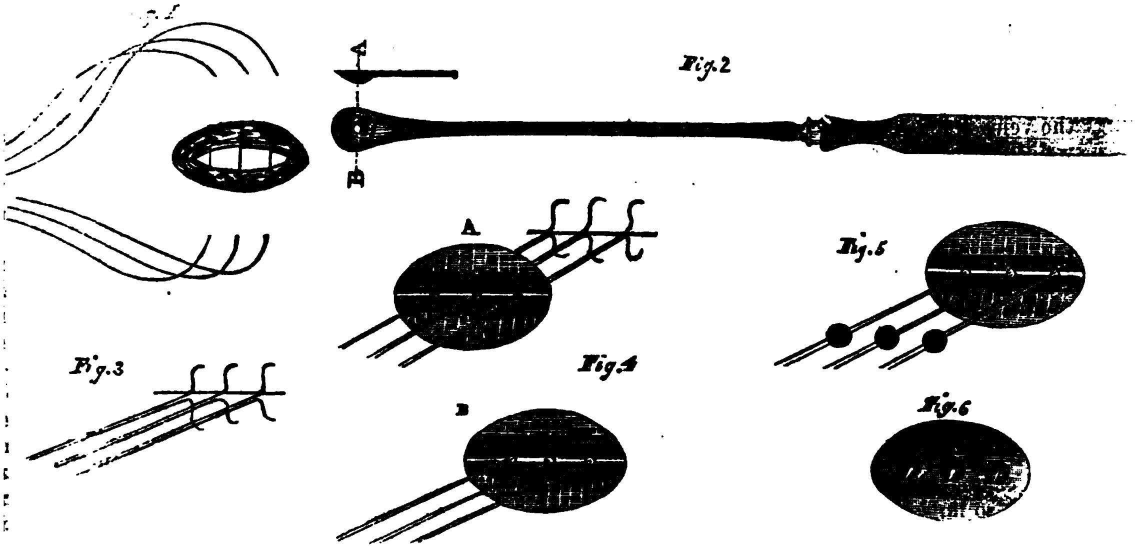
A discussion of some length took place, in which several fellows of the Society joined. The chief point discussed referred to the question whether the secondary eruption was the direct result of the vaccination, or merely the consequence of the irritation produced in the system by the introduction of a foreign matter. It was generally considered that the secondary eruption was the result of simple irritation produced in the system by the vaccine virus, and that any other source of irritation was due to the development of some latent disposition in the system to the eruptive disease which manifested itself. None of the speakers had been enabled from observation to connect the eruption with any periodicity in its appearance.

Mr. Ross, in reply, stated that the whole gist of his paper depended on this periodicity, of which he was certain, and without which his paper advanced nothing new. He thought the subject open to investigation, and upon that point was worthy of the serious consideration of the Society.

Mr. I. B. BROWN related a case of

VESICO-VAGINAL FISTULA, CURED IN FOURTEEN DAYS BY A NEW METHOD OF OPERATING.

Deborah P——, aged twenty-two, was admitted into St. Mary's Hospital, under his care, Sept. 22nd, 1856. She stated that she was delivered of a still-born male child on the 15th July, by instruments, after being forty-eight hours in labour. She was shortly afterwards seized with an attack of fever. Eight days after delivery she discovered that the urine dribbled away, after which it all seemed "to pass by the wrong passage." On examination per vaginam, he discovered a fistulous opening close up to the os uteri, about the size of an ordinary director, which instrument could readily be passed within the bladder, through the opening into the vagina. It appeared that all the urine passed through this opening, and none through the urethra; in fact, that she was never able to retain any within the bladder, even for a short time. The health of the patient being carefully attended to, especially the removal of some long worms from the bowels, he (Mr. Brown) determined, after consultation with some of his colleagues, to operate, after a method devised by Dr. Bozeneau, of Alabama, in America. Accordingly on the 15th of October, the patient being placed under chloroform, and put in the position for lithotomy, a leg being held by each assistant, a firm retractor, being placed within the vagina, was held firmly backwards and downwards by a third assistant; and each side of the vagina being held back by two other retractors, the bladder was seized, just at the juncture of its neck with the body, by a strong pair of Vulsellum forceps, and held firmly upwards and forwards by the right hand of the assistant holding the left leg. The fistulous opening was then with great difficulty brought into view, and the mucous membrane, divided, by a sharp knife, completely around the opening, about the eighth of an inch in depth. Three silver-wire sutures, eighteen inches long, were then passed by a needle held by the porte-aigulle, and which are shown in Fig. 1. The two ends of each wire were then brought together by an instrument, as represented in Fig. 2, thus leaving the parts in apposition (Fig. 3). A silver button, described in Fig. 4, was then carefully passed over the end of each double suture, and a perforated shot passed over each wire, as shown in Fig. 5, and pressed down upon the button, and then firmly pressed by a pair of long strong forceps. The wires were then cut off close to the shot, leaving the parts as represented in Fig. 6. A piece of lint dipped in sweet oil was then introduced within the vagina, the patient placed in bed on a water cushion, on her side, and a bent catheter with a bag attached to it was inserted within the bladder, and allowed to remain there. Two grains of opium were given directly, and one grain every four hours afterwards for the first twenty-four hours, and afterwards one grain every six hours; and a generous diet, with wine, allowed daily. The lint was removed on the second day, and the vagina washed out night and morning with tepid water. All the urine passed freely through the catheter. On the 24th, he carefully removed the button and the sutures, and found the most perfect union had taken place throughout the whole extent. On the 26th the bowels were relieved, for the first time, by castor oil and enema, and the catheter was removed for three hours, at the end of which time she passed urine comfortably, with no escape per vaginam. On the 27th, the catheter was removed entirely, and she was allowed to sit up and walk about a little. On the 28th she was up and about all day; she was able to retain the urine for four hours, and to pass it well. On the 30th he made a most careful examination, and found the parts firmly united, and without the slightest escape of urine, even after a long and tedious investigation. At that date (Nov. 8) she continued well. Mr. Brown observed that this method of operation had convinced him that cases hitherto intractable to treatment would be found to be curable by this operation.



TREATMENT OF HERNIA WITH ICE.

Mr. **Weedon Cooke** briefly mentioned a case of very large strangulated inguinal hernia (as big as the two fists) which had been reduced by the continued application of a bag of ice, after the warm-bath and other means had failed to afford relief. He had found the same application successful in two or three previous cases. He had found congelation by cold also supersede the use of chloroform in many operations.

Mr. **Stephens** exhibited

A HEART VERY MUCH DILATED AND HYPERTROPHIED, WITH THICKENING AND OPACITY OF THE MITRAL VALVE.

It had been taken from a child, two years and four months old, who was the subject of posterior spinal curvature. Had the deformity any connexion with the condition of the heart?

Mr. **Hird** read a paper on

SECONDARY INFLAMMATION OF JOINTS.

The author observed that John Hunter classed collections of matter in various parts of the body under two heads: first, those which were the consequence of inflammation; and, secondly, those deposits of pus which he considered were independent of inflammatory action. Secondary inflammation of joints, he stated, arise during the course of certain primary diseases, and are associated with other affections which are the result either of the introduction of an animal poison into the blood, or of a poison spontaneously generated in the blood itself. The doctrine of the blood-crases, propounded by Rokitansky, he (Mr. Hird) was of opinion cleared up many of the doubtful points in the pathology of these affections. The mechanical explanation which was formerly offered in respect of the mode in which pus was supposed to be conveyed bodily from one part of the body to another, is no longer tenable; the old theory of "metastatic abscesses" is out of date. Cruveilhier was the first person who brought the evidence of direct experiment to bear upon this subject. He injected mercury and putrid fluids into the veins, and found that secondary inflammation and deposition of pus resulted It is evident (the author stated) that pus, as pus cannot enter the blood through the coats of healthy and uninjured veins, but that the liquor without the corpuscles can contaminate the blood, and give rise to pyæmia. Without attempting to reconcile the different views held by Gulliver, Lebert, and Rokitansky, as to whether pus globules can be detected in the blood, Mr. Hird concurred with the views of Vogel, Wedl, and other pathologists, in regarding pus, as a new formation, and not a mere multiplication of the white corpuscles of the blood; and he illustrated by several examples the fact of pus corpuscles being found where no vessels had been ruptured, and where, consequently, the corpuscular element of the blood could not have escaped. That secondary inflammation of joints may arise quite independently of the direct introduction of animal poison into the system, the author considered a fact which admitted of being proved by cases which are continually before us, and also by what we observe in other forms of secondary affections, which arise from the action of morbid changes spontaneously occurring in the body. In typhus fever, when followed by a low secondary form of fever, vesicles or pustules, analogous to those which have been noticed as accompanying the fever of dissecting-wounds, may appear on the skin. The chief primary diseases or injuries giving rise to secondary inflammation of the joints may be arranged into—

1st. Those arising after injuries and surgical operations.

2nd. Those incident to the puerperal state.

3rd. Those arising from the direct introduction of a morbific poison into the circulation.

In the majority of cases where inflammation of the veins is followed by constitutional symptoms, we can demonstrate a direct communication between the veins and the part injured. This communication is manifest in cases occurring after amputation, where the veins terminate in open mouths. After childbirth, also, the uterine veins (when the uterus does not contract) remain open on the placental portion of the inner surface of the uterus. In both cases, when uninfluenced by any general or local circumstances which retard or arrest the process, the vessels are plugged by a coagulum of blood, and the direct communication between the part and the circulation is thus cut off. If, however, from some constitutional or local cause, this natural barrier be not set up, or if it be so imperfectly formed as not to afford a protection against the direct entrance of morbific matter into the circulation, secondary inflammation may then make its appearance along with the peculiar train of constitutional symptoms which characterize blood-poisoning. With whatever primary disease secondary articular inflammation may be co-existent, whether it may manifest itself in the puerperal state, or during an attack of scarlatina, small-pox, or other varieties of the exanthemata, or whether it show itself after injury to the genito-urinary mucous membrane, or after gonorrhœa, we must concentrate our chief attention on the first stage or period of the disease, and endeavour, by both medicine and regimen, to promote coagulation of the blood, so as to hermetically seal the open mouths of the veins; for it has been shown by experiments on animals, that the chances of recovery, after the introduction of putrid fluids into the circulation, are in proportion to the healthy condition of the blood itself, and of the small amount of poison injected. The recoveries diminish in number after every repetition of the experiment. In the first stage of the disease, it is to the general, rather than to the local, treatment that we must specially attend; for unless we can check the further introduction into the blood—in the class of cases where purulent infection is the evident cause of the disease—of the morbid matter, the result will assuredly be fatal. In a later stage, when the patient has rallied from the low typhoid condition which characterizes this disease, fomentations and other local measures may be used with advantage, and the iodide of potassium and sarsaparilla will be found valuable as alterative remedies. In all cases the author believes that the synovial membrane is inflamed, although in many cases the evidences of inflammation are slight. In the worst forms of the disease the cartilages of the joint are rapidly destroyed.

A discussion took place, in which Dr. A. Clark, Mr. Brown, Mr. Hale Thomson, and Mr. Canton took part.

PATHOLOGICAL SOCIETY OF LONDON.

Dr. Quain presented a specimen of

LARGE ENCEPHALOID MASS SURROUNDING THE ROOT OF THE LEFT LUNG; EXTENSIVE PLEURAL EFFUSION.

The mass, which was about the size and shape of a large cocoanut flattened, was situated between the root of the left lung and the heart. In its aspect it greatly resembled brain tissue, but was more resistant to the touch and more gritty to the knife. It yielded a copious cream-like juice. The microscope showed its structure to be composed of well-formed, variously shaped polynucleated cells, of granular matter, of many compound granular or "mulberry-like cells," of a delicate stroma, forming variously-shaped interspaces, and of numerous bloodvessels. The tumour compressed the bronchus and all the bloodvessels of the lung. It had passed into the lung tissue, forming there several masses, varying in size from a pea to a small egg, some of which projected above the level of the pleura. The left pleural cavity contained about three or four pints of blood-tinted serum. This was clearly the result of the pressure on the bloodvessels of the lung, for there was no evidence, save of slight pleurisy, and this on the surface of the diaphragm. The other organs of the body were healthy. There was some rough white deposit on the visceral pericardium, the result of a former pericarditis. There was no glandular enlargement any where. The specimen had been taken from a warehouseman, aged twenty-seven, who was admitted into the Brompton Hospital, under Dr. Quain's care (Dr. John Sibbald, the reporter of the case, being clinical assistant), on the 8th of last December. He dated his illness from a slight febrile attack, which occurred six months previously, and which left him in possession of a short dry cough. Three months ago he observed his breathing becoming shorter, his appetite, his strength, and flesh to fail. His cough increased, and he expectorated with diffiiculty a tenacious glairy mucus, but never blood. In this state he was admitted into the hospital. His sallow, cachectic, sorrowful expression was remarked, and it was observed that he could lie in any position, but he coughed most when on his back. There were no other peculiarities worth noticing. An examination of the chest showed the right lung to be healthy. Over the whole of the left side there was marked dulness. The mobility was greatly diminished. The side was by half an inch fuller than its opposite. There was feeble bronchial breathing over the apex of this lung before and behind. There was also a feeble breath-sound audible at the base behind, but not in front. The heart was but little displaced. Over it there was a distinct but limited friction-sound, and in certain positions of the patient there was also a pleural-friction sound. After a short stay in the hospital the signs of effusion increased; the heart was much displaced towards the right side; the respiratory and friction sounds disappeared, and there was heard with the first sound of the heart an endocardial murmur. The patient's weight increased by two pounds. Blisters, mild mercurials, and iodide of potassium were administered without material influence. The subject of tapping the chest was debated in consultation, but the conviction that solidification of the lung as well as effusion existed forbade the idea. The symptoms got worse rapidly on the 17th of January, and he died on the 19th. The breathing over the apex of the lung was observed by Dr. Sibbald at this time to be of a more bronchial and metallic character than previously. This case was of especial interest in common with a specimen of like disease presented by Dr. Quain at a meeting during the present session. The tumour in that instance was a sixth part of the size of the present specimen; but, being situated a few inches nearer the median line, pressed on the œsophagus, the aorta and the bronchus giving, by obstructing the functions of these canals, most unmistakable signs of its presence, and finally producing death by starvation.

Dr. Sibson exhibited specimens of

CROUPOUS EXUDATION LINING THE LARYNX, TRACHEA, AND BRONCHIAL TUBES,

with very few urgent symptoms during life. This membrane covered the tonsils, the back part of the pharynx, and extended downwards into the lungs, forming a number of inner tubes to the bronchial tubes.

Dr. Sibson also showed a

PERFORATED STOMACH,

taken from a maiden lady seventy years of age, a sufferer from severe pain in this organ, and who had been a voracious eater. The aperture—the size of a half-crown—was on the anterior curvature of the stomach, through which fluid had exuded. There was general peritonitis, but especially marked around the contiguous parts. The pancreas was partly involved, its structure consisting of a fibrous stroma with a few granules of fat.

Dr. Brinton thought that the preparation looked like an eroded ulcer of the stomach, and in a form in which ulceration usually takes place.

Mr. Hutchinson and Dr. Brinton were appointed to examine and report upon the specimen.

Dr. Sibson also exhibited a

TUMOUR ON THE LEFT CRUS OF THE CEREBELLUM,

compressing and involving in destruction the seventh pair of nerves. The tumour was the size of a walnut, and contained egg-shaped and other cells; it was taken from a lady sixty three years of age. The case was very interesting during life. She had double viscera; deafness for one year in the right ear; discharge and peculiar taste in the mouth. She had salivation for some days before death, no ulcers, but depending solely on increased secretion of saliva from the right side only. She had frequent sickness, depending not on the food eaten but on the quantity of saliva swallowed. This case showed, he thought, that the fifth pair of nerves regulated the secretion of saliva as well as the sense of taste.

Dr. Bristowe and Mr. Hutchinson gave a report on Mr. Nunn's case of "Ovarian Tumour," exhibited at the last meeting. The report stated that the tumour was one of the uterus, and not of the ovary. It was of the ordinary fibrous kind, but the earthy deposit was on the periphera, instead of in the interior, as was usual in these growths. The cervix uteri was present and healthy; the body of the uterus was absorbed. There was but one ovary and one Fallopian tube.

Mr. Hutchinson referred to the rarity of the deposit of chalky matter round the circumference of the tumour, as in this case, instead of in the middle. He had seen only one such specimen, and that was in the museum of St. Bartholomew's Hospital. The tumour was a fibrous one, and almost pedunculated.

Some conversatiou followed between the reporters and Mr. Nunn, who expressed his conviction that the tumour was ovarian, and this was the opinion of several of his colleagues. Eventually the specimen was referred to Dr. West and Dr. Brinton for further examination.

Dr. Markham related a case of

DISEASE OF THE AORTA; ANEURISMS; FIBRINOUS CLOTS IN THE ARTERIA INNOMINATA AND THE LEFT CEREBRAL ARTERY.

L. S——, a female, aged fifty, had long suffered from shortness of breath and palpitations: latterly, also, and especially in cold weather, she has been troubled with attacks of faintness and giddiness. The difficulty of respiration increasing, she sought relief at St. Mary's Hospital, on Feb. 4, 1857. At this time the breathing was much impeded, her face livid, and the cervical veins swollen, and no pulse was perceptible at the right wrist. Shortly after her admission, she was found lying in bed insensible, her right arm and leg entirely paralysed, the pupils of the eye immovable and contracted; no pulse could be felt at the right wrist, nor in the vessels on the right side of the head and neck; a diastaltic murmur was heard over the sternum. She lay in this state, the difficulty of breathing gradually increasing, for sixty hours, when she died.

A large amount of serum was found in both pleuræ, the lungs much congested, and in parts compressed. The pericardium was everywhere adherent by old and organised attachments. The heart was larger than natural; the aortic valves somewhat thickened and retracted, were incompetent; the arch of the aorta was much diseased, exhibiting everywhere at its internal surface the signs of fibroid and atheromatous degenerations. One small aneurism was found at the left side of the aorta, immediately above the left valve; two small aneurisms also existed on the right side, above the semi-lunar valves; the larger, about as big as a pigeon's egg, pressed upon the right auricle and also on the vena cava descendens, so as to have much diminished its size. The arteria innominata was completely closed by a firm fibrinous clot, closely adhering to its walls; a clot also reached up the whole common right carotid. The opening of the left carotid artery was contracted to one fourth of its proper size, by hard fibroid deposit beneath its inner membrane. The brain was congested; its ventricles contained much serum; the left internal carotid, after leaving the sella turcica and left middle cerebral artery, was closed by a firm red clot of blood; the left corpus striatum and parts around, supplied by the artery, were much softened.

This interesting case seems to demonstrate: that the arrest of the circulation of blood through the innominata had produced no marked changes either in the locomotion or sensation of the individual (for, *before* the paralysis came on, no pulse could be felt at the right wrist), and that life was carried on for sixty hours solely by the blood which was conveyed to the brain through the left vertebral artery. The paralysis, we may certainly presume, occurred at the moment the clot was formed in the left internal carotid. The cause of the formation of the fibrinous clots in this artery, and in the innominata is hypothetical; but we may fairly suggest that the clots were in some way connected with the aneurismal fibrinous layers; the openings of the aneurisms were large, and thus broken down bits of fibrin might have readily escaped, and been carried along by the current of blood into the arteries, blocking them up, after the manner first described by Dr. Kirkes. That no return of sensibility or movement took place after the paralysis, we may of course attribute to the circumstance that no blood could pass to the brain through the right carotid, and thereby in part compensate for the cutting off the blood by the clot in the left carotid.

Mr. Oliver Chalk related a case of

PARTIAL DISLOCATION OF THE LOWER JAW,

which occurred in J. S——, a female, aged thirty-seven. By the constant and long-continued pressure of an enlarged tongue, the condyles of the maxilla inferior have been partially luxated from the glenoid cavities, so that this bone has been carried obliquely downwards and forwards, projecting nearly an inch beyond the superior, and forming a prominence beneath the chin. The tongue, which undergoes considerable variation in form and size, being at times so swollen as to protrude from the mouth, was, when measured, three inches in width by three quarters of an inch in thickness; it was deeply indented by the teeth of the upper jaw. Mastication was exceedingly difficult, her speech impaired, and she suffered from severe facial pains in the vicinity of the articulating surfaces of the jaw. The preceding case is interesting, inasmuch as it affords an additional proof to that already given by Mr. C. Vasey ("Transactions," vol. vi., p. 172), of the effects of slow and continued pressure of the tongue on the lower jaw. The cases, however, differ, inasmuch as in the instance cited by that gentleman, the protrusion was caused by the cicatrix of a burn on the neck and chest, together with an altered condition of the alveolar processes, whilst in this it is the result of partial luxation without any alteration whatever in the osseous structure.

Mr. Bryant exhibited a specimen of

DISLOCATION OF VERTEBRA; PARTIAL REDUCTION BY EXTENSION AND LOCAL PRESSURE.

Francis A——, thirty-four years of age, a healthy labourer, fell from a scaffold, a distance of twelve feet, across a wall upon his back. He was taken up powerless, and admitted into Guy's Hospital, one hour after the accident, on May 3rd, 1856, under the care of Mr. Cock. On admission, he was suffering intense pain over the lower dorsal vertebra, the seat of injury; this pain shooting across the abdomen and round the hips. Perfect paraplegia and anæsthesia of the lower extremities were present, with retention of urine and slight priapism. The skin was cold; pulse 52, small. The only position he could lie in, on account of the pain, was upon his left side. Eight hours after admission, chloroform was given, and a careful examination made, when a considerable depression and prominence over the lower dorsal vertebra was most marked. Moderate extension and pressure over the projecting bones were applied with success, the deformity being considerably reduced, and the intense pain which was previously experienced much relieved, enabling the patient to recline upon his back. Upon the third day a peculiar catching cough, with slight bronchitis, made its appearance, but this latter soon disappeared. Perfect paralysis of the sphincters existed from the beginning, and any distension of the bladder occasioned more abdominal pain. On May 14th, the integuments over the sacrum first became inflamed, and on the 21st the bladder had lost its power of distension, the urine flowing away as secreted. On May 31st, a decided bed-sore made its appearance, which in spite of remedies, gradually became worse. On September 15th, several small pieces of necrosed bone came away from the sacrum, and from this time the patient's powers gradually gave away, and on December 25th, being nearly eight months after the accident, the man died. On necroscopic examination, the body was observed to be wasted, and the legs slightly œdematous. There was a sloughing bed-sore over the sacrum, exposing necrosed bone, and the sacral canal, which admitted the passage of a probe. No permission being given to inspect the body, the seat of injury was alone examined. Externally over the lower dorsal vertebra some irregularity was observed; but the bones were quite firm, the muscles round the part were pale, but no signs of inflammatory products, were detected in the soft parts. On removing the lower dorsal and upper lumbar vertebra, the mischief was clearly seen to have been produced by a dislocation of the eleventh dorsal vertebra forwards, causing the twelfth and lower vertebra to be projected backwards. The separation had taken place at the intervertebral cartilage, and this had now almost entirely disappeared; a thin layer only remaining in parts; in others, the bones were in contact, producing almost complete anchylosis. The eleventh vertebra, as a whole, seems to have been thrown forwards for half an inch, and downwards, rupturing all the ligaments, confining it to the one below, and permitting a separation of the spinous processes to the extent of nearly one inch. The edge of the anterior and superior surface of the body of the twelfth was also broken off with the downward pressure. The lower lumbar vertebra and sacrum were black and necrosed; the sacral canal was exposed, and the cord within of a dark green colour, and sloughing; this state of medulla extended up into the lumbar region. The cord at the seat of injury was compressed and disorganized, but both above and below it was healthy. The above is a specimen of a class of cases which have been generally regarded as somewhat rare, the majority of authors believing that fracture of the spine, the result of accident, is by far the most frequent occurrence, the toughness of the ligaments resisting what the bones break under. That such an opinion is not altogether correct, this present specimen tends to prove, as a direct blow upon the spine was followed by a dislocation and not a fracture. Three other cases have occurred at Guy's Hospital within the last sixteen months, illustrating the same opinion—two of pure dislocation of the lower cervical vertebra (where dislocation certainly may generally be expected), and one of the upper dorsal, proving at any rate that such a result from accident is not a rarity. Another point of interest in the case is the fact of the dislocation having been partially reduced by extension and local pressure, the relief afforded by the operation being of a most marked character. The fact that bed-sore had proved the immediate cause of death was too evident; such exaggerated results being present of such a complication as are seldom witnessed in any case where every means for their prevention are fairly tried.

Mr. Wm. Adams exhibited

A DISSECTED SPECIMEN OF CLUB-FOOT.

The leg was removed from the body of George T——, age thirty-seven, a basketmaker, who died in University College Hospital on Dec. 9th 1856. Excision of the opposite knee had been performed by Mr. H. Thompson on the 1st October. For the opportunity of examining the foot Mr. Adams was indebted to Mr. Erichsen. The deformity at the time of the death was a well-marked example of æquino-varus; probably the inversion of the foot had been more severe, and the case might have been one of varus. It was of non-congenital origin, and undoubtedly the result of infantile paralysis, though said to have been caused by a burn at the age of two years. On dissection, all the muscles of the leg were found to be in an extremely advanced stage of fatty degeneration, except the tibialis anticus, which was of a pale-red colour. The tendo-Achillis had been divided several times, and in one instance new tissue appeared to have been cut into. The posterior tibial tendon had been once divided, only half through, above the inner malleolus, a wedge-shaped portion of new tendon existing in this situation; and once completely through behind the inner malleolus, and in the latter situation the divided extremities of the tendon had never re-united. A small quantity of new tendon had formed in connexion with each of the divided extremities, but towards the centre each portion of new tendon was firmly adherent to the anterior wall of the sheath behind the malleolus. It thus affords an example of non-union of divided tendon. The new tendon presented to the naked eye, a grayish, translucent appearance, and was thus readily distinguishable from the opaque, glistening old tendon. Microscopically examined, the fibrous tissue was seen to be much more delicate than that of old tendon, and its general characters were the same as those described by Mr. Adams as existing in the new-formed tendon in rabbits after subcutaneous division (see Path. Soc. Trans., vol. vi., and represented in Plate 18 of this vol.). There was an irregular distribution of the arteries of the leg. The posterior tibial was absent. The peroneal, which occupied its position, was enlarged to the size of the posterior tibial, and, behind the outer malleolus, crossed the ankle joint towards the inner side of the os calcis, and from this point its distribution in the sole of the foot was normal. The posterior tibial nerve was enlarged to twice its normal size. The nature of this enlargement was specially investigated by Dr. G. Harley, of University College Hospital, who reported that the common neurilemma was thickened, and a considerable increase of cellular tissue distributed amongst the nerve fibres. The tubular nerve fibres show very distinctly their normal sinuous outline and double contour. Dr. Harley considered the enlargement to be similar to that found at the point of union of divided nerves.

Mr. Cooper Foster showed specimens of

MALIGNANT DISEASE OF THE FIBULA,

taken from a girl, eight years old, whose leg was that day amputated by Mr. Hilton, at Guy's Hospital. A swelling was first perceived in the affected part of the tibia twelve months ago. In May last, Mr. Hilton wanted to amputate the leg; but the father thought he could cure the child. Now the child was greatly emaciated, and the parents anxious to have the leg removed; it was therefore done. It presented a good example of soft medullary cancer, the fibula broken up and intermingled with the tumour. The glands in the groin were affected. She will not live six months.

Dr. Jenner exhibited some

OLD CLOTS IN THE HEART

of a child who had been a patient in the Children's Hospital, with effusion into the pleura, pericarditis, and albuminuria. Old clots were found in the left ventricle and auricle; the valves were healthy. The kidneys presented the appearance as if affected with rheumatic nephritis; mass of blood effused in lungs.

Dr. Harley showed

TWO DISEASED SUPRA-RENAL CAPSULES,

which he had removed by operation from a cat. A considerable portion of the glandular as well as of the cortical, structure of the organs had become replaced by a calcareous deposit, which chiefly consisted of carbonate of lime. The remaining portions of the glands contained so much fibrous tissue that the normal structure might be said to have entirely disappeared; yet, notwithstanding that the functions of the organs must have been nearly or wholly destroyed, there was no appearance of the animal's health having suffered any derangement, an important fact, when it is remembered that Dr. Addison supposes that supra-renal capsular disease is accompanied by extreme emaciation and debility. As patients rarely die of supra-renal capsular disease alone, it may yet be a question whether or not we are right in attributing the emaciation and weakness to the disease of these glands, for in the above example, where they were the only organs diseased, the animal's health was not in any way affected. Dr. Harley remarked, that he would not have brought the specimens before the Society, had it not been that at the present moment the question of the connexion existing between bronzed skin and supra-renal capsular disease was agitating the whole medical world both here and abroad, and that he considered it still *sub judice* whether or not bronzing of the skin was to be regarded as a pathognomonic symptom of diseased supra-renal capsules. Several cases had been already communicated to the Society, where extensive disease of these organs had been unaccompanied by discoloration of the skin. On the other hand, cases of bronzed skin had occurred, where no disease of the capsules could be found; and lately, a man whose skin was peculiarly white had died of phthisis in one of the hospitals at Naples, and yet he had no supra-renal capsules at all. Physiologists had attempted to discover, the function of the organs in question, and the relation which might exist between them and the skin, by direct experiment, but without success. He believed, he said, from the results of his own experiments, as well as of those that had been published by other observers, that the problem was one more likely to be solved in the dead-house than in the physiological laboratory. The principal points requiring to be ascertained were, firstly, is supra-renal capsular disease invariably accompanied by bronzed skin? Secondly, is bronzing of the skin always associated with disease of these organs? Both of these questions having been already answered in the negative, the next point is to discover what particular class of diseases of these organs cause discoloration of the skin; and, lastly, is it when the cortical or the glandular part of the organ is diseased that bronzing occurs? Dr. Harley said he was inclined to doubt the existence of any direct relation between disease of the capsules and bronzing of the skin on several grounds, but chiefly because discoloration of the skin existed in cases where the capsules were healthy, and because no change of colour was observed in several cases where the organs were so extensively diseased that their function, whatever it may be, must have been entirely interrupted.

Dr. Watson inquired whether there was any case on record in which both renal capsules were entirely destroyed, and no bronzing of the skin existed? Cases in which they were partially destroyed, without bronze skin, were known to have occurred.

Dr. Harley said, that in the case of the patient at Naples no trace of the capsules existed. In a case related by Dr. Peacock, the capsules were reduced to a grumous mass.

Dr. Bristowe said that in Dr. Peacock's case the capsules had been affected by malignant disease, but he was not quite sure that none of the healthy tissue remained.

Mr. Hutchinson suggested that the renal capsules had been overlooked in the Naples case. He had seen cases in which these bodies were very difficult to find, and one case in which they had been altogether overlooked. He was aware of no case of long continued disease of the capsules which was unattended by bronzed skin. Of course, acute disease of the capsules might exist without bronzed skin. He doubted if a person could exist without the supra-renal capsules, and suggested that Dr. Harley had perhaps mistaken some other tissue for them.

Dr. Harley replied that the practitioners of Naples were as well able to perform dissections as ourselves, and were as well acquainted with anatomy. They had found only one kidney in the case he had referred to, and sought for the capsules in the other parts of the abdomen, as in their original situation, &c. He had seen a rat live three days without the capsules, and in some instances, in France, thirty days or more. This was presumptive evidence that a human being might also exist without them. He thought these bodies were easily distinguishable, and was surprised that Mr. Hutchinson should suppose he was unable to detect them. In answer to a question, Dr. Harley replied, that the animals from which the supra-renal capsules were removed died from injury to the ganglionic system of nerves.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

There was a very large attendance this evening, to hear two cases read from the pen of Mr. Syme.

On Disarticulation of the Scapula from the Shoulder-joint.

By James Syme, F.R.S.E., Professor of Clinical Surgery in the University of Edinburgh.

Janet S——, nearly seventy years of age, was admitted into the Royal Infirmary of Edinburgh, on the 18th of September, 1856, on account of a large tumour involving the left scapula. In size and form it resembled a cocoa-nut. In some parts it was as hard as bone; in others, elastic but firm. It presented a distinct bruit, and communicated a strong pulsatory movement. The tumour was first noticed about six months before, when it was the size of an orange. Considering, on the one hand, that the extension of the growth into the axilla rendered relief by a partial removal of the bone impossible,—the unsatisfactory result of that operation in Mr. Liston's recorded case,—the fearful mutilation which it would involve,—and the small hope of a successful issue to so formidable a procedure at her advanced age; whilst, on the other hand, the chief obstacles to recovery seemed likely to be serious hæmorrhage (which it was thought might be prevented), or excessive drain upon the patient's strength in the subsequent suppuration,—Mr. Syme determined to remove the entire bone. This was done as follows: an incision was made from the acromian process transversely to the posterior edge of the bone, and another from the centre of the first directly downwards below the lower margin of the tumour. The flaps thus formed were then reflected. The scapular attachment of the deltoid, and the connexions of the acromial end of the clavicle were next divided. With a view to prevent the most serious source of hæmorrhage, the subscapular artery was next cut across, and secured. The joint and circumference of the glenoid cavity were next divided; the finger being hooked under the coracoid process greatly facilitated the division of its attachments, and enabled the operator to pull back the bone, and separate its remaining attachments with rapid strokes of the knife. The limb was supported and retained in situ by a bandage. The tumour, on examination, was found to consist of a nearly uniform expansion of the bone into a bag, partly membranous, partly osseous, containing a cerebriform growth, and extended to the margin of the glenoid cavity and spine of the bone. All seemed to promise well after the operation; the wound healed rapidly. At the end of a fortnight the amount of discharge was scarcely sufficient to stain the bandage. The shoulder assumed a very natural appearance, and it seemed that by the support afforded by the clavicular portion of the deltoid, together with the action of the pectoralis and latissimus dorsi, the limb would be able to execute a fair degree of motion,—indeed, the woman was with difficulty prevented using the limb too freely; but the patient's strength did not improve in a corresponding degree, and towards the end of November she suddenly sank, and died on the first day of December. The author concluded with the expression of a hope that this case would tend to encourage greater freedom in operating for diseases of the shoulder-joint as well as scapula, proving, as it did, that the scapula may be removed without serious loss of blood; that the resulting wound does not necessarily occasion excessive discharge, and that the arm becomes afterwards a serviceable limb.

Mr. Hale Thomson regarded the operation which had been detailed in the paper as most undesirable to be performed. Looking at the age of the patient, and other circumstances, a favourable result could not have been expected. He did not believe that the woman could use the arm on the side from which the scapula had been removed any better than she could the paralysed arm. He thought the operation unjustifiable.

The President said it was interesting to know that a patient might recover the use of the arm, to a certain extent, after such an operation. There were few cases, however, in which the operation could be practised, since there were few in which the tumours were circumscribed by bony coverings. The greater number of cases would be those of medullary disease: he had one such under his care at the present time—that of an enormous medullary tumour growing in every direction from the outside bone.

Mr. Curling differed in opinion from Mr. Thomson, and thought the operation was a skilful and able attempt on the part of the surgeon to effect a good object. The patient was no doubt in an unfavourable position for the success of the operation; but the effort of the surgeon was for the prolongation of life. He had seen Mr. Luke remove the greater part of the scapula, leaving the glenoid cavity. He thought the operation of Mr. Syme was to be justified on every sound surgical principle.

Mr. Syme observed, that it appeared to him remarkable that after the removal of the scapula the arm should still be useful; and on this ground, that the case would be interesting to the Society. It was still more surprising, that the removal of the clavicle should not produce any alteration in the position of the shoulder, or interfere with the motion of the arm; yet this was the fact in a case in which he had operated. There was, in truth, no difference between one arm and the other. Many things which appeared *à priori* impossible, were not really so. Other cases of tumour of the scapula were also fit for the operation he had performed. He mentioned one in particular which had come under the care of the late Mr. Liston, who wished to amputate the scapula, but could not get any other surgeons to countenance the proceeding.

On a New Method of Operating for Impermeable Urethra. By James Syme, F.R.S.E., Professor of Clinical Surgery in the University of Edinburgh.

In a former communication upon the remedy of stricture by external incision, the author endeavoured to show that impermeability was not consistent with the nature of stricture, and that whenever the urine could pass through the urethra an instrument might be made to do so; not perhaps at once, and with ease, but always through time and proper management. Though thus certainly permeable while merely contracted, the canal was undoubtedly liable to complete obstruction in consequence of wounds, and also of sloughing, when it had been found to constitute a very troublesome subject of treatment by the operation hitherto employed—viz., cutting upon the point of a catheter passed down to the seat of obstruction, so as to clear a way for its introduction into the bladder—a process rendered difficult by the thickness and condensation of the textures concerned, and also dangerous as well as uncertain by the risk of not cutting exactly in the proper course of the urethra. Two cases of this kind—one from a provincial town in Scotland, and another from St. John's, New Brunswick, in both of which not a drop of urine passed through the urethra for many months, the urethra being completely obstructed to the introduction of instruments—having lately come under the author's care at the same time, led him to reconsider the subject, and devise the following plan instead of the one usually employed, which for the reasons just mentioned he was unwilling to adopt. An instrument like the common lithotomy staff, with a groove on its concave instead of the convex side, being introduced through the fistulous opening of the perinæum, and confided to an assistant, the guide director employed for the division of strictures by external incision might be passed down to the seat of obstruction, and while the staff was supported by pressure upon the perinæum to thrust through the opposing substance in the course which it ought to take if the canal were free, enter the groove, and so pass into the bladder, when the state of matters would be similar to that of a stricture requiring division after having the director passed through it, so that the operation might be completed in the same way as upon such an occasion. This procedure was executed in both of the cases, without any difficulty in one, and without more in the other than might have been expected from the extreme degree of injury which the patient had sustained by falling twenty feet, fracturing the pubes, having the bladder punctured, &c., &c. The first patient was dismissed from the hospital perfectly well at the end of seven weeks after the operation; the second, passing urine in a full stream, but in general only by drops through the perinæum, appears also to have the prospect of complete recovery at no distant date. While quite aware that the formation of a new urethra is much less promising in its result than the enlargement of an old one, the author expressed his hope that the method which he had proposed would facilitate the procedure, and lessen the risk of its bad consequences.

Mr. Coulson thought there were many cases in which the plan proposed by Mr. Syme would not be applicable. There might be a great deal of the urethra obliterated anterior to the perineal opening, in which case the mode of propelling the small director would not apply; or the operator might not be always able to get the staff from the perineal opening behind the urethra into the bladder on account of the tortuous course it would have to take. He had seen many such cases, in which he considered these difficulties would be almost insuperable.

Mr. Travers jun., desired to draw the attention of the Society to certain particulars enumerated in the second case given by Mr. Syme as being at least unusual, and therefore interesting. On this occasion it was stated that there was a complete paralysis on the side of the rectum; in other words the stools passed involuntarily. Mr. Travers believed he was correct in saying that this loss of command in the sphincter was not ordinarily a concomitant or symptom of obstruction or injury on the side of the urethra and neck of the bladder. However, it would be in the recollection of the Society, that this man also sustained a fracture of the ramus of the pubes. Now he (Mr. Travers), as a matter of some interest and value in itself, begged to suggest the connexion which probably held good between these two circumstances as cause and effect. He thought the occurrence of fracture implied an amount of muscular lesion which might probably explain the loss of power spoken of, and exemplified by the involuntary discharge of the fæces. He (Mr. Travers) reminded the Society that fracture of the pubes was occasionally associated with very bad—nay, irremediable injury of the neck of the bladder and urethra: he had seen such a case, and which had a rapidly fatal termination. With reference to Mr. Syme's proposal, he thought the plan of cutting into the bladder upon a grooved catheter or director, in certain cases of breach of obstruction, highly ingenious; and, when such an instrument could be introduced through the perinæum, he believed the plan would sometimes be found to be an improvement upon what he would call the old operation; of course much would depend upon the nature of the case, whether it were one of recent breach, or chronic thickening and obliteration. He (Mr. Travers) fully corroborated the great difficulty sometimes experienced in passing a catheter onwards into the bladder after perineal section: he had formerly seen much of these operations, which were of very common occurrence at the Borough hospitals; they were not unattended with danger. On one occasion he had certainly known the patient to die of hæmorrhage. After all, the real difficulty consisted in hitting the posterior opening in the urethra, or that next the neck of the bladder. Where the parts were much thickened and otherwise altered, whether by disease or recent injury, he conceived that cutting on a grooved instrument must often materially facilitate the completion of the operation, and speedy relief of the sufferer. Nevertheless, he felt bound to add, that he believed all this might often be accomplished after free incision, by simply pushing forward the nozzle of a common staff or catheter, according to what must now be termed the old method. He (Mr. Travers) by no means desired to characterize Mr. Syme's proposal as exceptional or uncalled for; on the contrary, he had already said that he thought that on many occasions his plan and instruments would be found very useful. The subject was one of great importance and abiding interest to all operating surgeons.

Mr. CURLING said that he would feel obliged if Mr. Syme would give a *viva voce* explanation of the mode of proceeding which he had adopted in these cases. Mr. Curling then referred to a case of obliteration of the urethra, in which it was found impossible to pass even a No. 1 catheter. Under the influence of chloroform, however, the passage was effected, and the operation of cutting down upon the urethra performed with success.

Mr. HUTCHINSON remarked that there would be no difficulty in passing the instrument in those cases in which there was a fistula in the perinæum; it was in cases in which there was no such opening, that the surgeon experienced the difficulty. He said that there was one objection to the use of the slender instrument employed by Mr. Syme, and that was its liability to bend when force was used. He had seen such cases.

Mr. SPENCER SMITH remarked that Mr. Syme was not answerable for the London instruments, some of which bent easily, and were very different in this respect from those used by Mr. Syme himself.

Mr. SYME, having been requested to do so, explained more particularly the operation which he had proposed; and, in reply to Mr. Coulson's objection, that it would be rendered difficult by the tortuous direction of the fistula, stated that the passage was always perfectly direct, and also wide, unless perhaps just at the orifice, since the cause of true obliteration, for which alone the operation was intended, resulted from either sloughing or wounds, and not from the gradual extension of purulent matter, as in the ordinary cases of perinæal fistula, which always admitted of remedy, either by dilating or dividing the stricture that gives rise to them. As to the opinion expressed by Mr. Hutchinson, that the operation in question would not be applicable to strictures so tight and tough as to bend metallic instruments employed for their dilatation, Mr. Syme again explained that the procedure which he had proposed was intended for the remedy, not of *stricture*, but of *obliteration*, and that he believed the former condition would never be found to require the old expedient of cutting upon the point of a catheter, if the introduction of bougies were perseveringly attempted with skill and care, and especially with such gentleness as must entirely preclude the risk of bending a metallic instrument.

A Mirror
OF THE PRACTICE OF
MEDICINE AND SURGERY
IN THE
HOSPITALS OF LONDON.

> Nulla est alia pro certo noscendi via, nisi quam plurimas et morborum, et dissectionum historias, tam aliorum proprias, collectas habere et inter se comparare.—MORGAGNI. *De Sed. et Caus. Morb.* lib. 14. Proœmium.

UNIVERSITY COLLEGE HOSPITAL.

The Application of a Solution of Chromic Acid, as a New Stimulant Escharotic in Warts and other Growths upon the Genital Organs, attended by the best Results, in a Series of Cases.

(Under the care of Mr. MARSHALL.)

OUR attention has been directed by Mr. Marshall to the effects of a new stimulant escharotic, which, from considerable experience of its use, he is disposed to consider a valuable addition to the caustics usually employed in surgery. The agent referred to is a solution of *Chromic Acid* in distilled water. By microscopists, a weak solution of this acid has long been used to harden certain tissues under examination, and, as Mr. Marshall observes, it required no great stretch of the experimental faculty to try what might be accomplished by it in the destruction of living growths of a morbid character. As a local remedy it has been tried by Mr. Marshall in a great variety of cases in which extreme caustics are applicable, but at present we are requested to limit ourselves to a statement of the effects of the chromic acid in the treatment of one class of cases, viz., warts of the genital organs, whether resulting from syphilis or from gonorrhœal or other irritating dischages. The following cases, selected from others by reason of their aggravated character, will serve to illustrate the mode of action of this new application.

CASE 1.—A young girl, of fair complexion and delicate skin, the subject of syphilis for the previous eleven months, who suffered in regular order from primary sores, a small bubo on the left side, maculæ, sore-throat, eruption on the head, enlargement of the sub-occipital glands, and finally, a scaly eruption on the thighs and legs, and who had undergone (but only after the declaration of the secondary symptoms) a mild mercurial course, applied to Mr. Marshall to be relieved of numerous warts, situated on the nymphæ, the margins of the vaginal orifice, the perineal raphé, and the verge of the anal aperture. There were nearly thirty separate growths, some pedunculated, some sessile, some deep-red and highly vascular, others paler and covered with a thick epidermoid covering, but all exquisitely tender. Nitrate of silver, the acid nitrate of mercury, nitric acid, and nitric with arsenious acid, were applied at different times. Acetic acid and creosote had already been used. The mixed nitric and arsenious acids produced the most effect, but the pain and suffering caused by their application were so intense that the patient would not submit to the necessary repetition of the remedy. Under the influence of chloroform nearly all the warts were then snipped off with scissors, and nitrate of silver was freely applied. During this varied local treatment, which occupied about a month, the cutaneous eruptions and sore-throat quite disappeared, under the use of small doses of iodide of mercury. But the troublesome verrucæ were only temporarily suppressed. At the end of a fortnight they had reappeared, and the patient absolutely refused to submit to any further treatment by caustics or excision, even if chloroform were again employed, as the pain after the last operation had been so severe. For the next four or five weeks burnt alum and lead lotion were applied, and at the same time the constitutional treatment was omitted. The cutaneous eruption did not return, but the warty growths became as large and painful as ever.

Finding it useless to recommend a recurrence to remedies already too familiar to the sufferer, and endeavouring to devise some further means of treatment, Mr. Marshall first conceived the idea of trying the effect of chromic acid, and, after using much persuasion, was allowed to touch with it a single warty growth. For this purpose, a small quantity of the crystallized acid was exposed to the air until it had completely deliquified, and then an equal bulk of water was added to it. When a drop of this very concentrated solution was applied to the condemned wart, instant deoxidation of the acid ensued, and the growth became covered with a blackish-brown, lustrous film of oxide of chromium. Very little pain was produced, but a drop of water being now applied, on the supposition that further dilution was necessary to enable the remedy to penetrate the substance of the wart, a smarting sensation followed, which lasted a few minutes. No further inconvenience ensued, and in four days this particular wart had disappeared. A second trial was then made on four larger masses, with a weaker solution of chromic acid. The acid was not deoxidated in the same way as before, but the growths were stained of a bright orange-yellow colour. A little more pain, smarting, and heat were produced, but these were transient and tolerable, and at the end of a week, after some little soreness and discharge, the parts touched had wasted down to slightly elevated indurations. On the third occasion, the patient's confidence being established, and her fears of pain relieved, all the remaining warts on the vulva, perinæum, and anus were freely touched. The surfaces implicated being now extensive, the pain was more severe, and was felt for three or four hours; but still it was not to be compared in severity with that caused by the caustics previously employed. One the next day, the parts became somewhat inflamed, hot, slightly swollen, covered with a thin discharge, and rather sore, painfully so on movement or pressure; but none of the symptoms were of an aggravated character, and on the fourth day had almost entirely subsided. By the end of another week, every warty growth had disappeared. Throughout the whole treatment by chromic acid, free ablution of the parts after the first twenty-four hours, and a dressing of dry lint, twice daily, were enjoined. No constitutional treatment was pursued. At the present date, two months have passed over without any re-appearance of the disease. It may be well to mention that there was no irritation of the inguinal glands consequent on the inflammatory action set up by the chromic acid, nor were there any symptoms of disturbance in the general health which could be referred to the absorption of the chromic acid into the system. On the contrary, the health improved.

Case 2.—This, which, with two other cases, may be more briefly stated than the first, was one of pedunculated warts, seven or eight in number, resulting from previous gonorrhœa, and situated just within the orifice of the vagina. They were all touched with the solution, and disappeared within a few days. Scarcely any pain or subsequent soreness was experienced.

Case 3.—A youth, suffering from gonorrhœa and balanitis, with slight phymosis, had a dense crop of highly vascular warts upon the prepuce, corona, and glans. After one application of the chromic acid solution, which caused temporary smarting pain, and then a good deal of soreness on being touched, which continued for four days, only a few indurated ridges and flat warty eminences remained. By a second and third application, at intervals of a week, to these particular parts, they were quickly removed. The gonorrhœa was treated simultaneously. No syphilitic signs appeared.

Case 4.—A man had at the same time an indurated chancre near the frænum, and an abundant crop of warts on all the parts within the prepuce. Mercury was administered internally, and the chromic acid used at intervals with complete success. But there was much soreness, and some swelling and discharge. Sufficient attention had not been paid to the dressing with dry lint, and, owing to the occupation of the patient, his attendance at the hospital was at long and irregular intervals. This case is still under treatment, for a few elevations of the integuments, the bases of previous warts, remain. The chancre, which had also been touched, healed readily.

Additional cases could be readily quoted; but the only new fact of practical value which they show is, that the use of the common lead lotion, commencing the morning after the chromic acid solution has been applied, restrains the subsequent inflammatory action, relieves the accompanying soreness, and does not in any way neutralize or retard the rapid effect of this apparently useful escharotic.

The following general remarks, derived from information supplied to us by Mr. Marshall, may complete our present notice of this remedy, and will enable our readers to test its efficacy:

The chromic acid employed by Mr. Marshall was prepared from the chromate of potash and sulphuric acid. Definite proportions of the crystallized acid were dissolved in distilled water, and the slight trace of sulphuric acid present was precipitated by a drop or two of a solution of bichromate of baryta; but this extreme care to attain a pure solution was found by comparative trials to be practically unnecessary, although considered desirable in a first series of experiments. The strength of the solution ultimately adopted was in the proportion of 100 grains of crystallized chromic acid to a fluid ounce of distilled water.

The acid solution is best applied by aid of a pointed glass rod, or, where a large quantity is needed, by means of a small glass tube drawn to a point. Only so much should be applied as will saturate the diseased growth, avoiding the surrounding healthy mucous membrane; for although the solution is not sufficiently powerful as an escharotic to destroy or even vesicate the mucous membrane, it may give rise to an unnecessary amount of subsequent inflammatory action, which of course it is well to avoid, but from which no serious consequences have been found to ensue. Any superfluous acid may be removed by a piece of wet lint. The first effect of its application to the warts is to produce a slight smarting pain. If, however, any ulcerated surface be touched, the pain is of a burning character, more lasting, but not so acute and intolerable as that caused by the nitrate of silver, or by nitric acid with or without arsenious acid. After a short time the pain passes off, but there is gradually established a certain aching and soreness, dependent on the excitement of more or less inflammation in the parts. This inflammatory action is accompanied by a purulent discharge, and under its influence the morbid growths rapidly waste, in some cases being thrown off altogether, and in others undergoing a partial though evident diminution in size. The best immediate dressing to the parts is dry lint, as that does not dilute the strength of the chromic acid solution, and is at the same time clean. Afterwards the lint should be changed twice daily, or, what appears to be better as a check to any inflammation, the parts may be washed with a solution of lead, and dressed with lint moistened in the same.

In most cases of warts, one application suffices, the cure being completed in from four to eight days. The extreme period to which the inflammation set up by the chromic acid has been found to continue active is about four days. In severe cases, where the warts are large, repeated applications are necessary, each being followed by less inconvenience and less of the characteristic inflammatory action. In but one instance, so far as hitherto observed, have more than three applications been required, and in that there was great neglect as to proper cleanliness and dressing. It remains to be seen whether warts consequent on syphilis are quite as manageable as those clearly of non-syphilitic origin.

On the whole, it may be said that the treatment of these troublesome and painful growths by chromic acid appears more certain and speedy than that by the caustics usually employed; whilst the pain caused by it is not so severe, and the subsequent soreness, under proper management, is, after all, a comparatively small inconvenience.

With the results of further trials of chromic acid as an escharotic in other affections, as, for example, primary chancre, vascular growths of the female urethra, ulcers of the cervix uteri, common ulcers, sinuses, fistulæ, &c., Mr. Marshall promises to supply us, with as little delay as is consistent with correct observation. We must not omit to mention, however, a trifling fact, but one nevertheless of practical advantage; it is, that the chromic acid solution neither burns nor stains linen; it all washes out.

KING'S COLLEGE HOSPITAL.

Melanotic Tumours of the Groin, Excised in a Man Aged Thirty-six, who had a Similar Growth Removed from the Great Toe Five Years Ago, with Recurrence; Recovery.

(Under the care of Mr. Fergusson.)

A sort of melancholy interest attaches to black cancer, more so than to any other variety of the disease. Perhaps the main cause of this is that it is not so frequently met with. We have from time to time, as opportunities have permitted, recorded examples of melanosis in our "Mirror." To-day we place upon record the recent instance referred to in our "Clinical Records," also affecting the groin, in which extirpation for the present proved successful, but there can be no doubt that at a future time it will reappear, as it belongs to the malignant form of the disease.

It is well known that melanotic growths are disposed to make their first appearance in or contiguous to moles; they multiply in a most extraordinary manner, as in Mr. Hewett's case; they are destitute of blood-vessels; the black pigment seems to be analogous to that of the choroid coat of the eye and the rete mucosum of the skin, and hence a reason for the eye being a favourite seat of the disease, as well as moles: and lastly, the frequency of the disease in white horses is a circircumstance which Andral conjectures to be due to the absence of the black pigment of the skin, which, instead of being deposited in its usual place, is transferred to other organs and textures in which it is not naturally found. The horse is not the only animal in which it has been met with. It has been seen by Breschet and others in the dog, cat, rabbit, rat, and mouse. Dr. Gross has found it in the ox, and Noack has seen it in certain birds—the heron, for instance. It therefore appears that, however uncommon black cancer may be in the human subject, it is the reverse in many of the lower animals. The other forms of cancer, again, are rare, we believe, in them, if we except the encephaloid. For the following abstract we are indebted to the politeness of Mr. John Way, house-surgeon to the hospital.

George S——, an engineer, aged thirty-six, admitted on the 20th of December, 1856. He states that five years ago he had a small fungous growth, of a black colour, removed from the great toe of the right foot. Soon after this operation, a small black spot, the size of a pin's head, was observed between the great and second toes, and has since increased to about the size of a horse-bean. Three years ago, he noticed a swelling in the right groin, immediately below Poupart's ligament. This has steadily increased, and is now about the size of a large hen's-egg. Eighteen months ago, a similar swelling began immediately *above* Poupart's ligament, and has increased to the size of a walnut. The tumours are firm to the touch, present a dark appearance, and the skin moves easily over them. The man is healthy in all other respects, and there is no family history of carcinoma.

Jan. 10th, 1857.—The tumours have become softer, but have not sensibly increased in size.

The patient having been placed under the influence of amylene, Mr. Fergusson removed, by incision, the glands which had become the seat of disease. The tumours were found to be melanotic in character; the growths were free from the surrounding tissues, and limited in each case by the capsule of the gland. Under the microscope, a section presented the appearances usual in melanosis, large, compound cells, some caudate, and many large pigment cells.

The man has progressed favourably, the incisions have now (Jan. 24th) nearly healed, and there has been no unfavourable symptom of any kind since the operation. Subsequently to this, the patient went out quite well.

MIDDLESEX HOSPITAL.

Recurrent Melanosis of the Rectum, after previous Removal from the verge of the Anus, in a Man aged sixty-five.

(Under the care of Mr. Moore.)

Melanosis affecting the rectum and anus is a circumstance of the very greatest rarity, that has not hitherto been noticed by any writer on affections of that part of the body. Mr. Curling, Mr. Ashton, Mr. Quain, and others do not even refer to this form of cancer at all in their works. No instance, therefore, has been recorded of this part of the body in the human subject being chosen for its appearance. Dr. Gross, the well-known American author, mentions in his "Pathological Anatomy," that melanosis is to be met with, either disseminated in minute inky spots, or deposited in small spherical tubercles, of a concrete or semi-fluid consistence, in the adipose tissue of the anus and rectum in the human subject, a peculiarity which appears to have escaped the notice of any other writer. In the short abstract which we give of the patient at present in the Middlesex Hospital, whom we had the opportunity of again seeing on the 13th instant, the disease first affected the verge of the anus, was removed nearly two years ago, but has re-appeared higher up in the rectum. The patient is a pale, white-faced, exsanguine-looking man, with white hair and eyebrows, the very *ideal* of a melanotic subject.

If the anus and rectum are rarely affected in man, it is otherwise so in horses, for in them the subcutaneous substance of the buttock, anus, vulva, and tail is a very common seat of the disease. In horses and asses especially, melanosis often betrays an hereditary tendency.

Thomas M——, aged sixty-five, was a patient in this hospital in May, 1855, with disease of the anus for upwards of two years. He had previously been an inmate of other hospitals, including the Cancer Hospital, where he remained nine months. At this period he had a black fungoid growth, situated at the right edge of the sphincter ani, in an ulcerated condition, and which bleed freely. His health was moreover very bad, and he had given up all employment for nearly a year. At this time the disease did not extend far into the bowel, and it was excised by Mr. Moore on the 11th of May, a large portion of the external sphincter being removed. This was followed by recovery, with perfect control over the bowel. He remained tolerably well for upwards of a year, but began to suffer from a sensation of heat and bearing down in the middle of 1856; and as these symptoms increased, he again became a patient on the 15th of December last, under Mr. Moore's care. The rectum is now affected higher up, with no external manifestation of the disease.

When we last saw him, on the 13th instant, his pallor was extreme, with a slight yellowish tinge about the cheeks; his hair, eyebrows, and whiskers were perfectly white; in fact, his appearance was such as one might expect to find in a subject of melanosis, although he assured us none of his relations, so far as he knew, were the subjects of cancer in any of its forms. His debility seems extreme, and there can be no doubt the disease is spreading upwards, and possibly may recur in other parts of the body as well as the rectum.

We shall watch the result of this case with interest, and acquaint our readers at the proper time.

ST. BARTHOLOMEW'S HOSPITAL.

Protrusion of Bone a second time from the Stump of a Boy's Arm, amputated nine Years ago, arising from excessive growth; Removal a second Time, the first being performed six Years before.

(Under the care of Mr. Stanley.)

This is probably as singular a peculiarity as any hitherto brought under the notice of our readers. The patient was a lad of about thirteen or fourteen years of age, who had his right arm amputated by Mr. Stanley nine years ago for a compound fracture. Three years afterwards the end of the bone protruded, and an inch of apparently new growth of bone was removed by the same surgeon. And now, after an interval of six years, the boy, no longer a child, returns again with a similar growth. The question arises, Is this prolongation —for it is not a protrusion from retraction of the stump—a new growth of bone, which is continuous with the growth of the lad's body? We think there can be no doubt that this may be the case.

The end of the bone is not conical, although the stump has a distinct conical appearance now. There was a swelling also at the inner surface of the arm an inch above the end of the bone, which Mr. Stanley inferred might be a bulbous enlargement of the divided end of the nerve. It might be mistaken for a gland; but on squeezing it, notwithstanding the lad's being under the influence of chloroform, there was a decided manifestation of active sensation, evinced by muscular action. This day week an incision was made at either side, and the end of the bone dissected around, when about an inch of it was removed with a pair of Liston's forceps. There was a great deal of oozing from the divided surface of bone, which gradually ceased after a while, when the lips of the wound were brought together by stitches.

We have frequently witnessed the removal of a ring of necrosed bone from stumps, which do not heal in consequence of exfoliation of the end of a sawn bone; but this is a very different thing altogether from what was presented in this boy, who was in perfect heath. Nor is this boy's case at all parallel to conical stumps arising from muscular retraction. When his arm was amputated, it healed with a well-formed stump, and the end of the bone did not commence to grow till some time afterward.

The protrusion of the end of a bone, from such a novel cause, at such intervals of time, and recurring after a previous removal, is a circumstance unnoticed in the standard surgical works of the day, and is well worthy of attention.

ROYAL FREE HOSPITAL.

Crushing of the the Hand between two Rollers; Fracture of the distal Phalanges; Laceration of the Palm; Erysipelas extending up the Arm; Sloughing of Ends of Fingers; Recovery.

(Under the care of Mr. Wakley.)

The hand and forearm, of all parts of the body, are the most liable to mechanical injury, from their necessary exposure as the principal means of regulating and controlling the power of machinery. This rule applies more especially in towns where manufactories exist in great number, and very frequently this class of injury is seen in our London hospitals. When the hand has been injured, especially in the young, the surgeon makes every effort to save either the whole or at least a part of it, with as many fingers as he can. This we recently saw carried out at this hospital in two instances, which at first sight seemed only fit for amputation. A most praiseworthy effort was, however, made to save them, which to some extent was crowned with success. In the first of these, the extremities of the four fingers with the integument of the palm sloughed away. Mr. Wakley found it necessary in the progress of the case merely to remove the heads of the two fingers, and a useful hand was gained. In the other case, the laceration and general injury were much more severe; the thumb was hanging by a mere shred, and some of the bones were extensively comminuted; free hæmorrhage had besides produced much debility. Mr. Cooke removed the thumb and two neighbouring fingers, and a good recovery was made with the ring and the little fingers remaining. In both of these cases the injury arose from biscuit-baking machinery. The abstracts of each were kindly furnished us by Mr. Turtle, house-surgeon to the hospital.

George S——, aged fourteen, biscuit-baker, was admitted September 23rd, 1856, his hand having passed between two rollers. On admission, it was found that the distal phalanges of all the fingers were fractured, but there was no external wound of the skin. The integument on the palmar surface was torn up and lying on the fingers; the proximate phalanges of the middle and ring fingers were also broken, but the thumb had sustained no injury. The flap of integuments having been restored as near as possible to its proper position, and retained there with sutures, the hand and arm were enveloped in cotton wool. Very little constitutional disturbance took place. About the fourth day, erysipelatous inflammation came on, and extended up the arm beyond the elbow. This was subdued by the application of lead lotion in about three days. The extremities of the fingers and injured integument of the palm sloughed away, and it was found necessary to remove the heads of the middle phalanges of the index, ring, and little fingers, to obtain flaps to cover the bones.

The boy was discharged on November 19th, the wounds having nearly healed, and there was some amount of flexion and extension of the wrist.

Comminuted Fracture of the Bones and extensive Laceration of the Integuments of the Hand; Amputation of a Portion; Preservation of the ring and little Fingers; Recovery.

(Under the care of Mr. Weedon Cooke.)

D. R——, aged sixteen, was admitted, Sept. 30th, 1856, in a collapsed condition, caused partly by the shock of an injury just sustained, and partly by loss of blood. He had been assisting at a factory for biscuit-baking by steam apparatus, when the right hand became entangled in the machinery, and much laceration was the result. Upon examination, it appeared that the thumb was torn from its attachments, and hung loose, that the metacarpal bones of the index and middle fingers were much crushed, and broken up into small fragments; and the integuments both of the back and palm of the hand, including the muscles of the thumb, were most severly lacerated. When first admitted, there was free arterial hæmorrhage, which was checked by pressure with dry lint and bandage. After consultation with his colleagues, Mr. Cooke decided neither to attempt to save the fingers, nor to amputate the hand, but to remove only the thumb, index, and middle fingers, nipping off the corresponding fractured ends of the metacarpal bones, and obtaining as good a flap as possible from the palm of the hand. This he did, and every thing progressed favourably. The boy was extremely weak, and required high feeding. The healing process went on partly by adhesion and partly by granulation, and was complete on the 1st of December. The two remaining fingers admit of flexion and extension, and when educated, and aided, perhaps, by an artificial thumb, will be of the greatest service to the poor youth in writing and even prehension.

GUY'S HOSPITAL.

Fibro-plastic Tumour of the Thigh, the size of a Flattened Orange, first noticed about six Years ago, containing small Cysts filled with a greenish-yellow Fluid; successful Removal.

(Under the care of Mr. Cock.)

A fibro-plastic tumour may appear either beneath the tegumentary coverings or deep amongst the muscles of the body. On the 20th of November last, we saw an example in the first-named situation, removed, at St. George's Hospital, by Mr. Cutler, from the neck of a young woman, in the hollow just below the ear, which had been growing for some years, and not at all connected with the parotid gland; it was the size of a small peach.

Another instance of the same variety of growth, situated amongst the muscles of the inner part of the thigh, and close to the sheath of the femoral vessels, was removed by Mr. Fergusson, on the 1st of November. It was irregularly lobulated, the size of a peach, but flattened, and had been growing for four years. This part of the body—the thigh—seems to be the especial seat of a fibro-plastic tumour. The example we record to-day was in this situation, apparently extending into the ham, and was successfully extirpated.

The composition of a tumour of this kind is said to be the permanent arrest of plastic lymph in its development into areolar tissue. There are two varieties of this tumour, the naked eye appearances of which are often combined in the same specimen. "1. The soft variety has a great resemblance to encephaloma, being quite as soft, though more elastic, and not so readily torn; yielding, when cut, a clear, serous, and not milky juice, and having altogether the character of flabby granulations, such as are found surrounding carious bones. 2. The harder variety, or real sarcoma, is of firm consistence, like that of muscle, or of *carnified* lung, but not so firm as the fibrous tumour; on a section it appears homogeneous, and finely grained; its colour varies from reddish-yellow to a deep fleshy red. These tints alternate in patches, and are mixed with spots of ecchymosis; and it is often intermixed with fibrous bands, and contains many bloodvessels." (Druitt's "Surgery," seventh edition.)

Such are the physical characters of these tumours. The microscopical elements, on the other hand, consist of fibro-plastic cells, spherical or ovoid, the cell-wall being pale, and with a well-marked nucleus, and a dot constituting the nucleolus; elongated, oat-shaped, or pyriform, cells without nuclei; free nuclei, and small globules; mother cells—oval bodies, containing from two to twelve fibro-plastic nuclei. These last constitute the now well-known *myeloid* of Paget, from their resemblance to cells found in the marrow of fœtal bones. And, lastly, fibrous tissue enveloping the tumour, and separating it into lobules.

There is one thing to be said of a fibro-plastic tumour; it generally occurs single, and at any age. It may sometimes return; and must again be extirpated. It is found on the bones, the dura mater, the breast, and other glands, besides the parts mentioned.

The following abstract, reported by Mr. Broad, was furnished us by Mr. Valentine, late house surgeon to the hospital:—

Ann M——, aged thirty-nine, residing at Clapham; admitted June 23rd, 1856. She is a married woman, and has always enjoyed good health. About five or six years ago, she first noticed a small, hard swelling on the left leg, on the inner side of the lower third of the thigh, about the size of a walnut, movable, and painful. It gradually increased in size, till within the last fifteen months, since which time it has grown rapidly.

Present condition.—There is a localized swelling, about five inches in length and four inches in breadth, oval in shape, and situated in the lower third of the inner surface of the thigh; it is slightly movable, hard, and resisting to the touch, and painful towards the upper part. The temperature of the skin covering the tumour is natural. She complains of feeling weak; tongue moist and clean; appetite not very good.

July 1st.—The patient being placed under the influence of chloroform, Mr. Cock removed the tumour by making a longitudinal incision, and dissecting the mass out. The wound was then closed with sutures, supported with strips of plaster. The tumour had the ordinary appearance of one of a fibro-plastic character, with several small cysts filled with a greenish-yellow fluid.

After the operation she progressed favourably, and was discharged about fourteen days afterwards. At the operation the tumour was found to be pretty close to the popliteal vessels.

ST. MARY'S HOSPITAL.

Gunshot Wound of the Face of a Girl, inflicted with a Horse-pistol loaded with Pebbles; Destruction of the Right Eye, with Temporary Deafness of the Right Ear; Disfigurement of the Features from Gunpowder, with Ulceration of the Left Cornea from the same Cause; Recovery.

(Under the care of Mr. Ure.)

We are always glad to record cases which, like the present, have formed the subject of medico-legal inquiry, and on trial of the perpetrator of the dark deed, followed by conviction. The particulars will most probably be still fresh in the recollection of our readers, and excited at the time a good deal of attention. We watched the poor girl from time to time, until recovery ensued;

her features were completely spoilt by the gunpowder, and thus pretensions of some moment to one of her sex were almost destroyed.

In some clinical remarks which Mr. Ure made respecting the case, he observed, that while gunshot wounds invariably slough, it is remarkable how small a cicatrice is left. In reference to the partial deafness under which the patient laboured for some time after the receipt of the injury, he said he had been informed by an inspector of hospitals at Chatham that the soldiers engaged in the Crimea who had sustained gunshot wounds above or to the side of the orbit, or in that vicinity, were uniformly deprived of hearing in the corresponding ear. He ascribed the steady recovery of the patient to her calm and unruffled disposition, her pulse having never deviated from 72 beats in the minute during the most trying period of her suffering.

Emily L——, aged twenty-three, a servant, was brought to the hospital, at ten o'clock P.M., on the 7th July, 1856, having been shot in the face, half an hour previously, with a horse-pistol loaded with pebbles. The deed was perpetrated by a young man, a former suitor, who, seizing the opportunity of the woman's coming to the door, discharged the contents of the weapon at her head. He was tried for the crime at the September assizes of the Old Bailey, and sentenced to twenty years' transportation. Immediately after the pistol was fired the woman fell to the ground, stunned by the blow. When admitted, there was an irregular contused and lacerated wound situate over the right orbit, measuring about an inch and a quarter by an inch; the margins were uneven and notched. The upper eyelid was torn through at the outer canthus. On raising the eyelid, which was much swollen, the eye was found quite destroyed, with the iris protruding. The left upper eyelid was swollen and red, ecchymosed in patches, and incapable of being opened. The nostrils contained some crusts of blood. The face was swollen and tattooed from the effects of the gunpowder, especially the forehead, the cheeks, the left side of the nose, the upper lip, and the chin. She complained of violent tearing pain in the site of the wound and in the corresponding orbit. Mr. Ure directed pledgets of lint soaked in water to be kept applied to the injured parts, and prescribed an anodyne draught.

July 8th.—She slept a little during the night. The skin was rather hot; pulse 72. She complained of thirst, and of agonizing pain referred to the right eye. She was placed on simple diet, with a pint of beef-tea; and ordered effervescing saline draughts, with an opiate at night.

9th.—Nine A.M.: The surface of the wound was disposed to slough; she still suffered from pain in the right eyeball, which made her restless during the night and prevented sleep; the bowels had not been relieved since her admission. Ordered a dose of castor oil.—Half-past five P.M.: Pulse 72; skin moist. She felt more comfortable than in the morning, the pain having somewhat abated.

10th.—The pulse remained at 72. She passed a better night than before. The wound over the right eyebrow was rather circular in shape and about the size of a florin; the surface was ash-grey; no exposed bone could be felt. She still experienced great pain at times, referred to the damaged eyeball, the closed lid of which was exquisitely tender to the touch; there was considerable swelling, with a faint red blush spreading over the right side of the face as far as the ear; the integument covering the glabella had a boggy feel. The inner canthus of the right eye was suppurating; the left eyelid continued closed and swollen, and had a dusky-red hue. She was unable to distinguish the tick of a watch beyond three inches and a half from the right ear; with the left ear the hearing was normal. She had no headache; the thirst was abated; the tongue clean and moist. The oil had procured two alvine evacuations. She had no relish for food, but was able to take some bread-and-butter with tea in the morning, and was allowed two pints of milk in addition to her diet.

11th.—She passed a good night, having slept from ten P.M. till two and afterwards till five A.M. Was easier at the hour of visit, but had previously felt great pain in the eyeball for two or three hours; the wound was suppurating freely; appetite deficient; pulse still 72; tongue clean and moist; the skin perspiring.

14th.—Slept well without the anodyne draught: the pain was allayed. She took broth for dinner, both this and the previous day, with relish.

17th.—A small portion of the bone of the supra-orbital ridge was felt denuded; the wound continued to suppurate; the left eyelid remained closed, and on gently separating the lids, the conjunctiva was seen in a state of chemosis.

24th.—The hearing of the right ear was quite restored; the wound was proceeding favourably, though bone was still exposed; she was yet unable to open the left eye; on careful examination, it was ascertained that the cornea was ulcerated in one or two points, and there was considerable surrounding inflammation, evidently caused by grains of powder impacted in the sclerotic conjunctiva. She was applying water-dressing to the wound; and to the left eye, a lotion composed of decoction of poppyheads, with the addition of a small portion of solution of diacetate of lead, which had a very soothing effect.

August 4th.—Was dressed in her usual clothing, and sitting up; she felt weak; the wound was much contracted in extent; the condition of the left eye was improved; there was less intolerance of light than before; the patient, however, still kept the lids closed, and when drawn apart a gush of tears always ensued. She had eaten daily for some time a mutton-chop at dinner.

31st.—She was able to use the left eye a little, although it was still rather intolerant of light.

Towards the end of October, when the parts were firmly cicatrized, Mr. Ure requested the advice of his colleague, Mr. White Cooper, as to the propriety of adapting an artificial eye to the cavity of the right orbit. Mr. Cooper deemed the case eligible, and was good enough to instruct Mr. Gray, of Goswell-road, to fit in one, which has been skilfully done. This has in a great measure removed the unseemly appearance resulting from the cruel injury which was inflicted. The face, however, still retained, at the period when the patient left the hospital (Dec. 1st), a dark, mottled aspect, from the remains of the particles of gunpowder.

Clinical Records.

AMPUTATION AT THE KNEE JOINT.

This operation is one of rarity in this country, and has been resorted to only of very late years by Mr. Syme and Mr. Fergusson. Velpeau and other continental surgeons have spoken very highly in its favour. On the 6th of December, Mr. Fergusson again performed it at King's College Hospital, before a very crowded theatre of pupils and visitors. The patient was a young lad, who had necrosis of the tibia, from whom he removed a large piece of bone two weeks before; the inflammation, however, extended to the knee-joint, which became filled with pus, and a portion of the head of the tibia had already exfoliated, thus showing that this process does occur in this situation, although denied by some writers. The amputation was performed by cutting across the front of the joint in a lunated course, making incisions at either side of the tibia, dissecting the skin off, and then forming a large and long flap underneath. This was absolutely necessary, Mr. Fergusson remarked, as the condyles of the femur were so wide, and required a wide flap to cover them. He then sawed off a slice of the articulating surface of the condyles. Although very rare in London, this form of amputation has been done by Mr. Fergusson several times, and he believes of all the thigh amputations that it really is the best, as such a good flap and stump are obtained. This case we watched with some interest; the stump has perfectly healed, and the boy is walking about the wards, and we have no doubt it will turn out as well as it looks, a firm, strong, excellent stump, as good a one as may be seen after any amputation.

IMPERVIOUS STRICTURE OF THE URETHRA; PERINÆAL SECTION.

Our readers of course know very well that perinæal section for an impervious urethral canal is a totally different procedure from Syme's operation; it is the old method in practice long before Syme's was introduced to the notice of the profession. We have seen it done many times by Mr. Cock, at Guy's; also by Mr. Fergusson, at King's, who again performed it in a very difficult and obstinate case only on Saturday (the 14th inst.), very similar to one of Mr. Erichsen's, at University College, done on the 18th inst. This last case excited some little interest and attention, from the induration and enlargement of the perinæum and scrotum, due to plastic effusion, which was present, associated with a completely impermeable stricture, with numerous false passages and urinary fistulæ. This was the first case which had presented itself to Mr. Erichsen's notice in which an instrument could not be introduced into the bladder, although an effort was again made to accomplish it on the operating-table, but without effect, as, although the catheter apparently passed into the bladder, it entered some one of the many false passages. A large grooved staff was therefore passed down to the seat of obstruction, which was then carefully divided, the urethra being opened behind its point, as far as this extended, when a director was passed into the bladder, and the stricture further divided in its deeper portions towards the rectum. A catheter was then passed into this viscus, and retained. It is sometimes very difficult to hit the urethra at its posterior part after dividing the stricture, and much precaution becomes necessary. Here, the surgeon had to cut through two inches of thickened, condensed, plastic matter, which added to the difficulties of the case, and a very small calculus was removed from the urethra. It is needless to say, that in such cases, were it possible to get in Syme's director, the operation which goes by his name would be performed, a preferable measure at all times. Had active measures been delayed, most likely infiltration of urine would have ensued, with sloughing, in a constitution much impaired in not an old man.

This day week, we saw Mr. Stanley perform Syme's operation, at Bartholomew's, for an obstinate stricture, which resisted all treatment, in a healthy-looking man. It was satisfactorily accomplished upon a Syme's grooved staff. The man is doing well, but there was much bleeding after the operation. We may remark, that this operation has been rarely seen at St. Bartholomew's, and the slow but certain spread of the modern improved surgical operations is a striking feature of the times.

Mr. Fergusson has performed perinæal section twice since his operation on the 14th inst.

AMPUTATION OF THE THIGH FOR DISEASE OF LEG AND KNEE.

It is quite possible that had the knee alone been diseased in the subject of the present notice, a female aged about thirty-two, Mr. Birkett, at Guy's, would have performed excision of the joint; but as the disease commenced about six months ago in the tibia, which was extensively affected, with the formation of matter and sinuses, which ultimately extended to the knee-joint, the only resource was amputation, which was performed on the 17th February. The period of duration of the symptoms, although short, proved sufficient to effect anchylosis of the knee at a bad angle, and the affection had become decidedly chronic. She was quite willing to lose the leg, and since the operation has improved wonderfully. As was expected, the tibia was found extensively necrosed, which condition had spread towards the knee.

Last Saturday, Mr. Stanley, at St. Bartholomew's, removed the leg of a strong, stout, healthy man, by the flap operation, for some disease of the knee-joint, which seemed enlarged, with no external disease. He did not make any observation upon the case as to the nature of the disease, which was a great disappointment to all present. The case seemed one of the most favourable for excision we have seen for some time.

NECROSIS OF BONES OF FOOT.

Five months ago a heavy weight fell upon the foot of a lad, which was followed by swelling and inflammation, with caries of the metatarsal bones of the two outer toes. From time to time small spiculæ of bone came away from fistulous openings; these were run into one by Mr. Cutler, who found a shell of bone in a necrosed condition, which he removed on the 12th February, and the boy is doing well.

NECROSIS OF THE FEMUR; REMOVAL OF A LARGE SEQUESTRUM.

At the same hospital, in December last, a remarkable example of necrosis affecting almost the entire shaft of the femur of a boy was brought into the theatre for relief. Fistulous openings were present at the inner and posterior aspects of the lower third of the right thigh; many of these were run together, when the trephine was used by Mr. Hawkins, who succeeded in getting out the greater part of a large sequestrum, the piece removed being about seven inches in length. There is still a considerable portion remaining for removal on another occasion.

On the same day Mr. Henry C. Johnson applied the trephine to the head of the tibia of a lad, for the second time, and removed several crumbly portions of bone. The cavity thus formed subsequently healed up by suppuration. The first occasion on which the trephine was used in this case was about twelve months ago for a supposed abscess at that time, but no cavity was found, although the bone was infiltrated with matter.

CONGENITAL TUMOUR OF THE EXTERNAL CANTHUS.

An infant, a few months old, possessed a small tumour, the size of a pea, at the outer canthus of the right eye, which was congenital. It was carefully removed by Mr. Tatum, and proved to be an example of the form of tumour so common about the eyelids—namely, steatomatous. In its interior could be distinguished several minute hairs. We have seen these removed by Mr. Walton, Mr. Paget, and others several times, and, although apparently trifling in their nature, it is absolutely necessary they should be wholly removed, especially when extending inwards. If complete extirpation is not accomplished, nitrate of silver, applied in the solid form, generally effects a permanent cure.

SEBACEOUS TUMOURS OF THE LOWER EYELID.

A companion case to the foregoing we saw in a boy, last Saturday, at St. Bartholomew's Hospital, with two oblong tumours below the right eyelid, which turned out to be sebaceous cysts, and were removed by Mr. Lawrence, who had to dissect away with great care the membranes of both cysts, which from former inflammation had become adherent to the subjacent cellular tissue. We observe that Mr. Lawrence is as active and expert in his operations, even those of the most delicate character, at the present time, as in his earlier days, a gratifying fact to his numerous friends and admirers.

VARIOUS DISEASES OF THE BREAST.

We have very frequently seen the breast removed at Guy's Hospital, for various diseases of the mammary gland, many of them extremely rare, and all of interest. Thus, in April last, Mr. Birkett removed a breast from an elderly female, with the development of cysts of various sizes in the lactiferous ducts, on squeezing which there oozed out fluids of various colours, from a glairy yellow to a green or brown. This affection was four years and a half developing itself, and is very uncommon. Sir Astley Cooper describes it. Mr. Birkett described it as quite distinct from adenocele and carcinoma. In July following, a tumour of the breast, of considerable magnitude, that had been growing only seven months, with ulcerated surfaces and profuse bleeding producing great debility, was also treated by removal by Mr. Birkett, to give the poor woman a chance for her life. It proved to be medullary cancer, striated with yellow in its centre. Recovery ensued in both instances. In July, again, Mr. Birkett extirpated a fibrous cancer of the breast, affecting a portion of the gland; and, in October, Mr. Hilton removed an example of carcinomatous ulceration of the breast, with numerous fungous growths projecting. The disease had spread very extensively, and was removed at the request of the patient herself; it certainly was the only means of giving temporary relief. Mr. Birkett excised a breast in November which was completely infiltrated with carcinoma, from a female aged forty-one, existing for nine months, without much retraction of the nipple, although the skin around it was. A case somewhat similar, with infiltration of more than the upper half, and a large scirrhous tubercle at its superior and inner margin, was excised by Mr. Cock on the 17th of Feb. It had existed for some years, and on removal, considerable adhesion was found to be present between the gland and pectoral muscles. There was no evidence of disease elsewhere. She had been under a variety of treatment, and now suffered very great pain. All these cases recovered from the operation.

RHEUMATIC ANCHYLOSIS OF BOTH KNEES.

We call this rheumatic anchylosis because the patient, an old woman, has long been subject to that complaint, which, about twelve months ago, produced contraction of both knees, the right at a right angle, and the left a little more so, at an oblique angle, associated with great rigidity and tension of the hamstring tendons. This last condition was so extensive that Mr. Erichsen thought he should have to divide them. Chloroform being given on the 4th inst., this rigidity yielded, and complete straightening ensued from the forcible extension, and the limbs were placed on under-splints. We have not a doubt as to the result of this case, more especially as the treatment will be associated with measures towards removing the rheumatic condition of the body.

TAPPING OVARIAN DROPSY, AND INJECTING THE CYST WITH IODINE; FATAL RESULT.

The following outline of the case will prove of interest at the present moment; it has been kindly furnished us by Mr. George W. Lawrence, house-physician to King's College Hospital:—

Maria F——, aged thirty-two years, mother of several children, the subject of ovarian dropsy for the last eighteen months, twice tapped during the last three months. A large unilocular cyst, with a hard tumour at its base, somewhat larger than a fœtal head. Tapped by Mr. Fergusson on the 31st of January, 1857; and four ounces of the compound tincture of iodine injected into the cyst, with four ounces of water, nineteen pints of fluid having been first drawn off. She died the sixth day after the operation, apparently from exhaustion, having been in the intermediate time almost constantly delirious; and having, during the first four days, excessive vomiting. The vomit contained iodine in large quantity in a state of combination; iodine was also found in the urine, tears, and sweat. At the post-mortem, the cyst was found to be a large unilocular one, occupying almost the whole of the abdomen, and the tumour at its base, to consist in part of a large number of small cysts, filled with the same albuminous liquid as the larger cavity, and the back part of a malignant growth. There was a great abundance of lymph thrown out in the larger cavity, but no adhesion, probably because fluid had been thrown out again so rapidly as to separate the surfaces. There was no trace of peritonitis; nor could any iodine be found in any of the fluids of the body by careful analysis.

We saw a second case submitted to the same treatment last Saturday. The patient was a female, aged thirty-five years, under Dr. Todd's care. She had been tapped five or six times before, which was repeated on the present occasion by Mr. Fergusson, when the iodine, about a pint of the solution, was injected. There was a number of immense veins coursing over the abdomen, which became smaller when the fluid was withdrawn.

We may remark, that in both these cases paracentesis was performed with the patients in a recumbent posture on their sides—a peculiarity of some importance which we have noticed at no other hospital. The advantages of doing it in this position are quite apparent.

FIBROUS TUMOUR OF THE FAUCES SUCCESSFULLY REMOVED.

Last Tuesday week, an elderly man was submitted to an operation by Mr. Skey, with a tumour which had been growing four or five months, situated at the back of the fauces. There was some doubt as to the origin of the seat of its root; but as its early growth was followed by difficulty of respiration in the left nostril, there was reason to believe it originated there. The right nostril was quite free. The growth presented itself at the back of the throat, in the form of a large whitish, round mass, not unlike the peg-top of boys; it pushed the soft palate in a vertical direction; it was firm. It was said to be a fibro-cellular tumour, and proved so; there was nothing malignant nor cancerous about it. Mr. Skey thought the probability was it would not return if removed, from its being fibrous; he did not expect to remove the whole of it, however. He was fortified in this opinion by an observation of Mr. Arnott's, who had an exactly similar case seven or eight years ago, who contrived to remove the greater part of the tumour, partly by manipulation and partly by cutting with the knife; and years elapsed before any obstruction occurred in the nasal passages; and he has reason to believe that she is in very fair health. Mr. Skey, therefore, did not hesitate to remove it; and in the event of recurrence some years hence, it would be time enough to do anything. The mouth was kept open by an instrument for the purpose, and the tongue pressed down by Mr. Holmes Coote. The tumour was now partly detached, with forceps and knife, from the soft palate; and its separation accomplished by manipulation and dissection. It was the size of a walnut, and fibro-cellular. Several smaller portions were got away; one especially from the back of the left nostril, which was pushed backwards through the nose by means of a pair of dressing forceps. The poor man was now enabled to breathe with perfect ease and freedom through both sides of his nose, and lost very little blood. Nearly all of this tumour was removed, which appears to have sprung from the nasal fossæ. Any elaborate dissection in a case of this kind was quite out of the question: and we have no doubt the tumour may pursue the same course as in Mr. Arnott's case, and the patient may have many years of comfort.

VARICOSE VEINS, DISEASE OF HEART, PROMINENT EYEBALLS, AND ENLARGED THYROID GLAND.

One of those very rare cases of disease of the heart, at the present moment not extensive, associated with very prominent eyeballs, and hypertrophy of the thyroid gland, was submitted to the operation of ligature of the veins of the left leg in a varicosed condition, by Mr. Erichsen at University College Hospital. There appeared to be a generally congested condition of all the superficial veins. The pins were applied as we have described in a previous number; but in consequence of the state of the heart, chloroform was very judiciously not used. The patient was a young married woman, and went out with this condition quite cured.

On the 25th ult., another case of varicose veins of the same leg, in an elderly man, with a varicose ulcer, was submitted to the same procedure, with the usual results. Over this man's thigh was a dried-up atheromatous cyst, the remains of it having become converted into a hard cretaceous deposit.

SPONTANEOUS CURE OF PSOAS ABSCESS.

It is no uncommon occurrence to meet with instances of angular curvature of different portions of the spinal column in a cured condition—that is, without an abscess—if one has formed—bursting externally, the matter having been absorbed. These are seen frequently in the streets of London. But a spontaneous recovery from caries of the spine, associated with a large abscess, is a very great rarity indeed. Such a case, however, is in Sanctuary ward of the Westminster Hospital, under Mr. Brookes's care, in the person of a short girl, aged seventeen years, who has been for many years the subject of angular curvature of the lower part of the lumbar spine, with caries of the bodies of the bones, and a large psoas abscess for the last nine months, which pointed in the thigh, and was punctured. Very large quantities of matter continued to flow for some time; it became diminished, and several undoubted fragments of the bodies of the diseased vertebræ came away. The girl's health began to improve, her strength and flesh to return, and for the last seventeen days she has been up and walking about the ward. There is still a little discharge, but not of much moment, and there is every reasonable hope of a permanent spontaneous cure. Her stay in the hospital has been about five months.

There is a case of psoas abscess in the Royal Free Hospital, under Mr. Thomas Wakley's care, of a man aged thirty-seven years, who was admitted in May last. Here there was at one time the most profuse discharge; but now it is reduced to less than an ounce a day, with great improvement of the general health, with exercise about the ward. Up to the present time, however, there is no curvature or angular deformity of the spinal column, although from the general symptoms we believe the bones are engaged in the lumbar region. He suffers from occasional attacks of diarrhœa.

HÆMORRHOIDS IN A CHILD.

It is a very unusual circumstance indeed to meet with piles in a child, but especially of any magnitude; yet, on the 4th ult., a boy three years old was brought to Mr. Erichsen, at University College Hospital, with an external pile, the size of a small filbert, on the left verge of the anal aperture, which he had had for some time. It was snipped off with a pair of scissors and a bleeding vessel tied, no chloroform being given. Hæmorrhoids are really uncommon until the age of puberty. Mr. Ashton mentions, in his work on the Rectum, the case of a child under two years of age, under his care, suffering from several external piles; and refers to others in children of five and seven years of age, in the former complicated with stone in the bladder. Mr. Curling states that they rarely occur before puberty. Whilst on the subject of piles, we may refer to a case, some months back at King's College, in which we saw Mr. Fergusson excise a pile from an elderly man, which, on slitting up, contained a clot of blood the size of a pea. Sometimes the simple slitting up of a pile will produce a cure, but it may be necessary to do it a second time to the same pile. In this patient there was also a fissure of the anus, which was remedied by cutting through a portion of the sphincter ani.

RINGS OF NECROSED BONE FROM THE ENDS OF STUMPS.

Necrosis of the end of the bone in stumps arises sometimes from the injury produced by the jarring of the saw, or from being bathed in pus during the process of healing by suppuration. We think the last perhaps the most common cause. Some months back we noticed a female, in University College Hospital, whose thigh had been amputated for puerperal arthritis; the stump had healed, but a fistulous opening remained at one side, leading down to necrosed bone; another was present some inches apart from the first. We remember hearing Mr. Erichsen remark at the time that it was attributable here to the jarring of the saw on the bone, the vitality of which had become diminished by previous disease. An incision was made across the sinus and a pair of forceps introduced, when a sequestrum nearly four inches long, with a complete ring of bone at the end, was removed. This was larger than the circle of bone, with a number of spiculæ attached, as is usually seen, and presented quite a curious appearance. A cure followed.

A specimen very similar to this, several inches long, and quite unaltered at its ring, as if only just sawn through (so little effect had the pus upon it), we saw Mr. Hilton, at Guy's, remove, in October last, from the thigh of a man who underwent amputation for a compound dislocation of the ankle, which occurred twelve months ago, followed by suppuration extending close up to the knee, necessitating amputation above it. The case was at one time looked upon as hopeless, but the poor man was kept alive upon a couple of bottles of wine per day. When the piece of bone was removed the stump was enormously swollen, but this subsequently disappeared.

In July last, Mr. Cock removed an enlarged bursa from the under part of the stump of a man whose leg had been taken off just at the ankle-joint or above it; he found also a small portion of the bone diseased, which he gouged away. This bursa had been a provision of Nature to relieve this condition.

ANCHYLOSIS OF ONE KNEE AND BOTH HIP-JOINTS FROM RHEUMATISM, AND OLD FRACTURE OF PATELLA.

In November last, we saw one of those unfortunate cases of contraction of the lower limbs in an elderly man, in King's College Hospital, under Mr. Bowman, depending upon rheumatism. The patient was then completely cured of this complaint, but both of his knees were affected from it, the left being in a semiflexed position and anchylosed, this last state being present also in both hip-joints. There was also an old fracture of the patella, with complete separation of the fragments, which gave the knee a very curious appearance. Chloroform was given, when the left knee was forcibly straightened, the adhesions being plainly heard to yield during this process; the external hamstring was then divided subcutaneously. This leg was put upon a straight splint; some slight inflammation followed, but the case has done pretty well.

FATTY TUMOUR OF THE GROIN AND OF THE BACK.

It is certainly a curious circumstance that such a variety of opinion should prevail sometimes about really what may be a very ordinary tumour —a fatty tumour, for instance. On the 5th of March, we saw an elderly man, at St. George's Hospital, who was a coachman, with a tumour resembling a large femoral hernia, situated in the left groin, where it had been for twenty-five years, and during which time he had had as many as twenty-five different opinions, all varying in their nature. On coming to St. George's, a few days before this, Mr. Hewitt at once detected it to be a fatty tumour, and the man consented to its removal, which was performed on the 5th instant, under chloroform. The skin was exceedingly adherent at various parts, requiring some little dissection to remove the growth. The special interest of the case consisted in the situation, the time it was growing, and the doubt amongst so many surgeons as to its character, some of them pronouncing it to be malignant.

A few minutes before this, Mr. Cutler removed a fatty tumour, the size of a flattened orange, from the upper part of the back of a young woman. In this case, the adhesion, arising from the pressure of the cloths upon the skin, was complete, necessitating a somewhat tedious dissection. Both of these cases are doing well.

STRANGULATED FEMORAL HERNIA.

On Saturday, the 21st of January, an elderly woman was brought into Bartholomew's in a moribund state, with a strangulated femoral hernia, down since the Wednesday morning previous. The hernia consisted principally of omentum of a dark bloody colour, and a knuckle of a deep port-wine colour, which was returned by Mr. Lloyd, but not without opening the sac after division of the stricture. She was given chloroform, and had to be supported with wine. She had all the symptoms as if mortification of the intestine had occurred; it was found, however, shrunk and empty, but not dead. The prognosis was necessarily serious, and death ensued the same night.

Four days before that, Mr. Marshall, at University College, reduced a strangulated femoral hernia, of four days' duration, without opening the sac, in a woman aged sixty-eight, who has had occasional rupture, which she returned herself, but did not know what it was, and who never wore a truss. The tumour consisted of a knuckle of small intestine, and since the operation she has gone on without a single bad symptom.

It would thus seem that a great age is by no means incompatible with cure; for on the 24th of February, Mr. Lloyd, at St. Bartholomew's Hospital, reduced a large scrotal hernia, measuring fourteen inches by nine in circumference, in an old man, with strangulation of twenty-four hours, and whose age was eighty years. The sac was not opened; and the old man had been accustomed to wear a truss. Moreover, chloroform was given. This case did well.

CANCER OF THE TESTICLE IN AN INFANT.

On last Tuesday week, at the Metropolitan Free Hospital, Mr. Hutchinson excised the testis of a child on account of medullary cancer, and partly from the very early age of the little patient, the case was of much interest. He was a stout, well-grown boy, of two years and three months, still at the breast. The disease having been first noticed ten months ago, he could at the time of its commencement have been scarcely a year and a half old. Two of his father's sisters had died of cancer of the breast. The testis was enlarged to the size of a fist; the opposite being not larger than the tip of a finger. It was rounded and tense, and in most parts the skin of the scrotum adhered to it. Numerous enlarged veins crossed its surface; no enlargement of the lumbar glands, or thickening of the cord, could be detected on careful examination. Mr. Hutchinson stated that he felt very confident in the diagnosis; but in order to remove all doubt, immediately previous to the operation (the child being under the influence of chloroform), a grooved needle was thrust into it, and the soft matter which it brought out placed under a microscope which stood by. This showed well characterized cancer elements, and the operation was at once proceeded with. A considerable portion of the scrotum was removed, and the incisions were made to extend far back under the most depending part of the tumour; the object being to provide a free escape for the matter which would have to form. The structures of the cord, which was quite healthy, were included in a single strong ligature. No other arteries required ligatures. Mr. Hutchinson stated that he had encountered so much trouble from bleeding occurring a few hours after the operation where the vessels of the cord only had been tied, that in this case, from the age of the patient, where the vas deferens and other structures were but little developed, and the cord thin, and where also blood was of great consequence, he preferred to adopt the old practice of tying the cord *en masse*. The specimen after removal was an excellent example of medullary cancer. No trace of the gland structure could be seen. There did not appear to have been any inflammation about it; nor were there any extravasations of blood into its structure—facts which corresponded with the history of its growth having been quite painless.

With regard to the age of the patient, we believe that the case gives us an example of one of the youngest on record. When cancer does occur in childhood, it is generally located either in the bones or the eye; and it is very rare indeed for an organ like the testis, then little more than rudimentary, to be attacked.

RECURRENCE OF CANCER IN THE AXILLARY GLANDS; ATHEROMA OF THE CHEEK.

ABOUT four or five years ago Mr. Erichsen removed the breast of a woman affected with scirrhus in an advanced stage, which was followed by cure with a large thin cicatrix. She remained quite well up to the present time; but about three months ago she noticed some little lumps in the axilla, which on examination were suspected to be a recurrence of the cancer, which it was deemed prudent to remove on February 25th, under chloroform. The old cicatrix is perfectly healthy. On removal of the affected glands, some were found extending under the pectoral muscle, but all were got rid of. At the same time an atheromatous cyst, the size of a small peach, was removed from the left cheek; the membrane of the sac had evidently inflamed, as the skin was becoming red; it was thin and adherent, and was dissected out. Now, this case is extremely interesting, from the fact of fully four, nearly five years having elapsed since the primary removal of the disease, and the recurrence of it in the neighbouring glands. In this situation at present we are quite justified in looking upon the affection as a local one, although we know very well that when once the lymphatic glands become affected there is a great chance of deposit in some internal organ. Mr. Erichsen, as a proof of this, referred to a former case of removal of cancer of the breast, the glands being free, but in which the disease recurred in the cicatrix and glands. The patient died out of the hospital, and at the autopsy her liver was found infiltrated with cancer. This was not suspected at the time of the operation, but it must have come on very rapidly. This patient is doing very well, and will again leave the hospital shortly.

On the 26th of February, Mr. H. C. Johnson removed a cancerous breast from a woman admitted into St. George's the day before. She was about forty-five years of age, and attributed its origin to a blow two years before, but it only began to swell a year ago, and was followed by ulceration. The glands in the axilla were diseased. Mr. Johnson looked unfavourably upon the case, and operated at the particular request of the patient, who was under the influence of amylene. She is going on quite well.

NECROSIS OF THE FRONTAL BONE; TWO INSTANCES.

A MERE glance at the heads of our Clinical Records will suffice to show how extensive and common an affection is necrosis of the bones. Our desire will be to refer to examples of the different bones affected.

On the 25th of February, we saw Mr. Erichsen remove the greater part of the supra-ciliary ridge of the left orbit, together with portions of the outer table of the frontal sinuses in that situation, from an elderly man with necrosis. It was necessary, by means of a small pair of pliers, to accomplish this, and with a small gouge, carefully applied, some remaining carious bone was removed. This interesting case was farther complicated by ulceration through the upper eyelid, with the passage of pus over the ball, produced by the affected bone beneath. This patient has had necrosis of several other portions of his cranium.

This affords us the opportunity of referring to a case of necrosis of the frontal bone in a boy aged ten years, from whom Mr. Erichsen removed pieces of bone last summer. The necrosis was present over the frontal sinuses, and was very extensive, being produced by a fall two years before, striking the upper part of the nose, followed by swelling and suppuration, the matter escaping through the nostrils, of a horribly offensive odour. A longitudinal incision was made over the swelling on the forehead, and several large fragments of necrosed bone were removed from the lower part and border of the frontal bone. The disease extended to the root of the nose. On one or two occasions subsequent to this, some further fragments of dead bone were got away, and ultimately the boy did well. Before surgical relief was afforded, this boy was very drowsy, his mind wandered, he was not so lively and cheerful as was his wont. When young, his father stated he suffered from chronic hydrocephalus.

THE RADICAL CURE OF REDUCIBLE HERNIA BY WUTZER'S OPERATION.

OUR readers will recollect an instance of the success of this operation, recorded in our "Mirror," (THE LANCET, 1856,) accompanied with drawings of the instrument employed. We had the opportunity of seeing this operation repeated on the 28th of February, by Mr. Holmes Coote, at St. Bartholomew's Hospital, on a man aged fifty-four years, who has been the subject of inguinal hernia for five or six years, but who has never worn a truss. The instrument was applied in the usual manner, as we have described on a previous occasion, and retained just a week, having been removed this day week. The patient is at this moment firmly bandaged, and will wear a truss for the next three months. When the instrument was being applied in this case, Mr. Coote did not go on with the chloroform which was being administered, as the patient became very restless. A full grain of opium was administered, with the best effects, after the operation.

OVARIAN CYST INJECTED WITH STRONG TINCTURE OF IODINE, AND RETAINED.

One of the most suitable and proper cases submitted to this plan of treatment we saw at St. Mary's Hospital on the 11th instant. The patient, a single woman, aged forty, had had an ovarian tumour more than twenty years, which was tapped for the first and only time about twelve years ago, when thirteen pints of fluid were evacuated. The swelling has been slowly and gradually increasing since that time, and as it was now proving inconvenient from its weight and size, it was tapped on this occasion by Mr. Baker Brown, when the patient lay on her left side in bed, through one of the lineæ semilunares, and about eighteen pints of a dirty, slightly greenish, yellow fluid were withdrawn, which contained only a small quantity of albumen. She was then turned over upon her back, and six ounces of strong tincture of iodine—three times stronger than the ordinary tincture of the London Pharmacopœia, and undiluted with water—were injected into the cyst through a gum-elastic catheter passed through the trocar. This was allowed to remain, as is the custom of Mr. Brown in such cases, and was not followed by the slightest pain. In fact, as the patient seemed otherwise a tranquil, quiet, healthy woman, the result is likely to be a successful one. When reaction sets in from the effects of the iodine, Mr. Brown gives wine, as very great prostration is often the result of it. Generally, in about half an hour after the injection has been completed, all the secretions of the body become most remarkably impregnated with iodine, the saliva tasting quite strong of it.

In The Lancet for March, 1857, in referring to two cases of ovarian tumour submitted to the same plan of treatment, we mentioned that tapping, in the recumbent posture, was practised *only* at King's College Hospital. We have since learnt that Mr. Baker Brown has been in the habit of performing paracentesis in that position for many years at St Mary's Hospital; and he mentions in his work on "Diseases of Women" (p. 207, 8), that he has been in the habit of practising it in this position for the last ten years. Dr. Tanner also has done it at the Hospital for Women, in Soho-square since 1852; and Dr. Simpson, of Edinburgh, is in the habit of performing it in the same position. As our readers are aware, at most of the London Hospitals, tapping is performed in the semi-erect position, and we have many times seen it followed by syncope, and often with great danger to the patient. The advantages of the recumbent posture are so obvious, that a little reflection, we feel satisfied, will suffice, on the part of our hospital surgeons, to make its adoption hereafter the rule. In the fluid withdrawn from Mr. Brown's patient, there was but very little albumen. This is a point of favourable importance in relation to the result of the case; for when albumen is present in large quantity, Mr. Brown has shown, we think pretty satisfactorily, that the cases do not do so well, and oftentimes the prognosis is very serious. We again saw this patient on the 16th instant, and found her doing very well. It appears that in five minutes after the injection of the cyst, iodine was detected in the saliva; subsequently in the vomit, urine, and tears. She was very much depressed for twenty-four hours, but was freely supplied with wine and brandy—a point of great importance, Mr. Brown insists upon, in these cases. She has not had any pain in the cyst, and there is no doubt whatever of her recovery and perfect cure.

INJECTIONS OF IODINE INTO AN ILIAC ABSCESS.

This is a case of a cowkeeper, aged twenty-three, who first noticed a swelling in the right groin, about twenty-one weeks ago; it enlarged, pointed, and was opened eight weeks ago, giving exit to a good deal of matter, which at the present time amounts to about three ounces per day. He is taking bark and wine and good nourishment; and the sac of the abscess has been injected with a solution of iodine about eighteen times since his admission into the hospital. *There* is no disease of the bones at present; *but the* patient looks very delicate, has some uneasiness about the limbs, and has dribbling of the urine. These are not favourable symptoms; we will, however, watch the progress of the case.

REMOVAL OF A TUBERCULO-SYPHILITIC SARCOCELE.

The form of disease which goes by this name is well known as that described by Mr. Hamilton, of Dublin, consisting of a deposit of tubercle within a syphilitic testicle. The patient was a young man, aged twenty years, who has suffered from syphilis for two years, and who at the present moment has ulcerations of the hard palate. When he came into University College Hospital a week ago, a small abscess was opened into the testicle, the integuments around which were adherent, with enlargement, pain, and uselessness of the organ, so much so that its removal was earnestly demanded by the patient himself. This was done on the 4th of March by Mr. Erichsen, who found a large quantity of plastic matter thrown around it, as well as infiltration of tubercle throughout its substance; a section showing a yellowish-coloured mass, with a greyish-blue at the margins. The case was interesting in a diagnostic point of view, as if it had been simply syphilitic sarcocele it would have been got rid of by the use of mercury. But as there was adhesion of the scrotum, and the occurrence of an abscess in front of the testis leading into the interior of the organ, taken with the general strumous aspect of the patient, there was no doubt as to the nature of the case and the propriety of its removal, as clearly shown on examination.

AMPUTATION OF A USELESS FOOT AND ANKLE.

One of those distressing cases that had long resisted all measures for relief, we saw in a young woman who had been under Mr. Fergusson's care several times at King's College Hospital. It was an instance of arrest of development of the foot and ankle from a deficient supply of nervous influence, a want of vigour of the limb which comes on in early life, and generally noticed when a child begins to walk, and occurring most frequently between one and six years of age. No human power can cause a leg to grow under such circumstances. The patient suffered much pain with this foot; it had ulcerated chilblains, and was utterly useless and in the way, and she wished it off. Mr. Fergusson had a difficulty in deciding where to amputate; if he did so at the ankle-joint, he was afraid of sloughing there; but if done higher up, below the knee, he thought the wound would heal as readily as in any other patient, particularly verified in a somewhat similar instance in which he amputated the thigh some time back. It was therefore taken off below the knee, on the 14th of March, leaving a sufficiently long stump to permit the wearing of an artificial limb by-and-bye. The thigh and knee were both healthy.

MEDULLARY CANCER OF THE SCAPULA.

The unusual seat chosen for the manifestation of this form of disease is illustrated by a case at the present moment at St. George's Hospital, under the care of Mr. Cæsar Hawkins, who referred to it the other night at the Medico-Chirurgical Society, when Mr. Syme's paper was read on the removal of the scapula. The patient is a pale, emaciated-looking woman, twenty-three years of age, who was admitted Jan. 21st, into Princess' ward. The tumour of the right scapula has been growing only six months, is rapidly increasing, has given much pain, and is spreading upwards on to the neck, and in other directions. The bone, when first attacked by the disease, was freely movable upon the ribs. One small portion of the tumour has already burst, giving vent to a sero-sanguineous discharge. It is certain to increase with rapidity, and will in a short time destroy life.

APPLICATION OF THE ACTUAL CAUTERY TO A DISEASED WRIST-JOINT.

This powerful remedial agent we now and then see employed with really good results by Mr. Erichsen at University College Hospital. We have watched its application in many instances, and our wonder is that it is not more extensively employed as a means of counter-irritation in the other London hospitals. On the 4th of March it was used along the dorsal surface of an inflamed wrist-joint, which was rapidly going on to destruction. It had all the appearances of a severely inflamed joint, with swelling, some redness, and a tendency to displacement; there was some grating and severe pain; the disease was not of a strumous character. Elsewhere we hope to see the actual cautery becoming more in vogue; it leaves no pain on recovery of consciousness after chloroform. This we saw verified especially in the case of a lad whose thigh was amputated, in whom it became necessary subsequently to apply this cautery over the whole surface of the stump, and the boy did not know anything about it, so little after-pain remained on being taken to his bed.

THECAL ABSCESS OF THE HAND; ANCHYLOSIS OF THE MIDDLE FINGER, WHICH WAS REMOVED.

A very instructive case came under our notice at St. Mary's Hospital, on the 11th of March, under Mr. Lane's care. It was that of a young man whose middle finger was contracted upon the palm, from an injury which was followed by suppuration in the theca in the palm, with a passage of the matter to the back of the hand. The flexor tendon seemed to be remarkably tense as well as the cicatrised skin, and the finger was immovable. As the patient was a porter on the Great Western Railway, he was greatly inconvenienced with his hand, and wished something to be done—if possible, without the loss of the finger. Mr. Lane therefore endeavoured to divide the tendon subcutaneously, but could not succeed; he, however, divided the subcutaneous bands of contracted tissue which permitted of straightening the finger to some extent, but on further examination the joint of the finger was discovered to be firmly anchylosed, and the flexor tendon destroyed from the old disease. He therefore amputated the finger, as he was desirous of doing at first. The cause of the bending of the finger therefore was not due to the tendon, nor altogether to the cicatrix, but to disease of the metacarpo-phalangeal joint, with anchylosis in a bent position, which was the principal obstacle to the straightening of the finger. The extensor tendon was perfect.

This reminded us of a case under Mr. Bowman's care, at King's College, in which he removed the first and second phalanges of the ring-finger, in July last, from the hand of a blacksmith, with contraction of this finger from a thecal abscess. This was done at the man's request, as the finger was so much in his way when working at his trade. The third phalanx was left as a means of support in handling his tools. There was no anchylosis, but contraction of the tendon, and the remains of the finger proved of great service indeed.

Reviews and Notices of Books.

Cranial Presentations and Cranial Positions: Suggestions, Practical and Critical. By R. U. West, M.D. Reprinted from the Glasgow Medical Journal, Oct., 1856, and Jan., 1857. Glasgow: William Mackenzie. pp. 60. With plates.

To attempt such a pamphlet as the present amidst the exhausting and deteriorating influences of a country practice is no small merit in itself. But to produce any thing so careful and thoughtful, so well worthy of the close attention of the most accomplished and scientific accoucheurs, marks Dr. West out as one of the salt of the profession. And this is not the less true, however we may feel disposed to demur to some of our author's conclusions.

It is almost impossible to discuss the questions raised by Dr. West in the limited space at our disposal; we shall, therefore, confine ourselves to giving a transcript of our author's summary, with one or two remarks of our own.

Dr. West begins by deploring the diversity of opinions which have prevailed, or indeed do now actually prevail amongst accoucheurs, as to the position of the fœtal head in its passage through the pelvis. He then goes on to say,

> "My object, therefore, in this paper will be to endeavour, if possible, to reconcile these discordant opinions one with another, and to point out how and why the observation of what must have been the same sets of phenomena by different writers, should have been so differently described and explained."

These discrepancies our author believes to be the consequence of something inherent in the nature of the subject itself, and not, as Nægele supposed, of one suture or one fontanelle being mistaken for another, or because preconceived opinions had been allowed to influence observers.

The classifications of all authors are spoken of as either too fanciful, and including too many almost imaginary positions of the head, or as not comprehensive enough; and this want of comprehensiveness, Dr. West lays to the charge of Nægele. Dr. West represents Nægele as admitting only two cranial positions of the fœtus. Now although it is quite true that Nægele asserted that the vast majority of cranial positions were with the long axis of the fœtal head in the right oblique diameter of the pelvis, it is not true that he admits no other, for he goes to considerable pains to describe the progress of labour in four positions. His opinion was that what we now commonly call the third position was more frequent than the second. That the reason why second positions were before his time considered more frequent than the third was because it had not been discovered that third positions are in the vast majority of cases transformed into second. We will now give Dr. West's amended classification of cranial presentations.

> "*First position of the cranium.*—Right ear near symphisis pubis, occipital end of head descending, first in the axis of the brim, and finally coming round to the arch of the pubes by the *left* side.
>
> "The next most frequent position is the
>
> "*Second position of the cranium.*—Left ear near symphisis pubis, occipital end of head descending, and coming round to the arch of the pubes by the *right* side.
>
> "The next most frequent position is the
>
> "*Third position of the cranium.*—Left ear near symphisis pubis, frontal end of head descending in the axis of the brim, and finally coming round to the arch of the pubes by the *left* side.
>
> "The next and last is the
>
> "*Fourth position of the cranium.*—Right ear near symphisis pubis, frontal end of head descending, and finally coming round to the arch of the pubes by the *right* side."

From this excerpt it will be apparent that Dr. West is at issue with nearly every authority as to the mode of termination of third and fourth positions. His leading idea seems to be, that the most dependent part of the cranium must necessarily be first born. And he maintains that those occipito-posterior presentations which terminate in the emergence of the occiput from under the pubic arch, are not *fronto-cotyloid*, but *bregmato-cotyloid* at the commencement of the labour. It is hardly just, we think, to accuse Nægele of having "deliberately confounded mere *bregmato-cotyloid* with *fronto-cotyloid* positions." It may be that that eminent obstetrician was mistaken, though that we think is by no means proven; but deliberately to confound is rather too hard a judgment to pass upon one to whom we are certainly indebted for the bulk of our information upon the mechanism of labour. The true third and fourth positions of Dr. West, instead of being comparatively easy, are, he avers, difficult, and he speaks of them as invariably terminating as occipito-posterior positions. We are by no means satisfied as to the truth of our author's *distinction* between bregmato and fronto-cotyloid positions; it is obvious that to produce such a presentation as the bregmato-cotyloid, the head must be extremely flexed upon the chest, but laying aside *à priori* reasoning, and reverting to actual experience and observation, we still demur to the new theory of Dr. West's, as well as to his facts, for the simple reason that we never saw or felt such a position as his bregmato-cotyloid, except at the very commencement of labour, and before the head had entered the pelvis at all. Such a preliminary and transient position no doubt occasionally takes place, but its practical relation to the mechanism of labour is zero.

The summary of Dr. West's propositions is as follows. He is anxious to suggest—

> "1. A more correct appreciation of the diagnostic value of the presence of the ear at the sympihsis pubis; the ear in the great majority of cranial presentations lying in that situation during the whole progress of the head into the pelvis.
>
> "2. That in *vertex* positions, the presence of the ear at the pubes proves that the head is already in a favourable oblique occipito-anterior position, becoming more and more so as the os occipitis comes more and more within contact, although the ear may not have left the symphisis.
>
> "3. When the occiput is fairly under the arch of the pubes in the last stage, the long diameter of the head will be found to be accurately in the long diameter of the outlet; the two lambdoidal sutures being evenly one

on each side of the symphisis, and the anterior fontanelle exactly on the raphe of the perinæum, as described by all writers except Nægele, and those who follow him.

"4. That in this last position the ears are at each acetabulum, rather than at each ilium, as taught in books.

"5. That the first and second most frequent positions of the vertex are, in the majority of cases, the converse of each other, as taught by nearly all writers, except Nægele.

"6. That in his grand discovery of the universality of *bregmato-cotyloid* positions in the second position, he has deceived himself, by not reversing all the conditions, both of the patient in her position, and of the examining hand of the accoucheur.

"7. That Nægele, in maintaining that his predecessors are all wrong in this matter, has deliberately confounded mere bregmato-cotyloid with *fronto*-cotyloid positions, the latter being always intended by writers, though they may have loosely denominated them presentations or positions of the *vertex*.

"8. And that, therefore, Nægele is right in maintaining that the normal progress of the labour in bregmato-cotyloid positions, as in all true *vertex* ones, is for the occiput to make its way to the arch; and that quite as easily, *cæteris paribus*, as when the occiput lies originally most forward.

"9. That there are only *two* positions of the *vertex*—that is, only two ways in which, in *vertex* presentations, the head enters the pelvis, and makes its way to the outlet.

"10. That in all, or nearly all, presentations of the *vertex*, the occiput will surely come to the arch of the pubes by a natural and necessary process; and that whether the vertex presentation be bregmato-anterior or bregmato-posterior originally.

"11. That the cases which terminate with the face or forehead at the pubes, are originally positions in which the uterine efforts are so perversely directed, that the forehead gets down into the pelvis during the first stage.

"12. That, in the first stage, the ear is usually at the symphisis pubis, as it is also in vertex presentations.

"13. That in these perverse cases, which are usually *bregma* presentations, the ears will really occupy opposite parts of the pelvis, the head lying at first with its diameter in a transverse position across the pelvis.

"14. So that some of them may terminate with the occiput at the arch, after a very hard labour.

"15. But the original perverseness in the direction of the uterine efforts, which has placed the head in this unfavourable position, continuing, the anterior or frontal end of the head will frequently pass first to the floor of the pelvis, and then come forward to the arch of the pubes.

"16. That Nægele, on his own showing, had never seen a genuine case of true *fronto*-anterior position, incredible though it may seem; at any rate, such a case as is described by nearly all writers, and as is met with continually in practice. He decidedly ignores all such cases.

"17. That Nægele is quite as wrong in maintaining that all first positions are originally *occipito-cotyloid*, as that all second positions are originally *bregmato-cotyloid*; bregmato-cotyloid positions, in the former class of cases; being common enough, and having been overlooked through the method of examination.

"18. But that most of the bregmato-cotyloid positions met with are merely instances of a kind of *deceptio tactûs*.

"19. For it is only necessary to place the patient on her other side, and to use the other hand in examining, in order to be convinced that the first and second positions of the vertex are the converse of each other in *every respect*.

"20. And that, although there may be quite sufficient in the patient's position to account for this *deceptio*, we may be justified in taking into consideration, also, the deceptive impression conveyed to the finger, when it is passed *blindfold* from one point to another of a globular surface, along a line ordinarily looked upon as a straight one, lying over that *globular* surface.

"21. That it is no wonder that disputes and discrepancies should have arisen amongst authors, when we find one set speaking of presentations of the 'vertex,' and meaning presentations of *any part of the whole cranium*; while another set, like Nægele, speak of '*cranial* positions,' meaning positions of the *vertex* exclusively.

"22. And finally, that the dispute between Nægele and those whom he so utterly condemns as guilty of *ignorance* (*Urkunde der Art und Weise, &c.*) is something like the quarrel between the two knights about the shield which was gold on one side and silver on the other."

The essay is so excellent as a whole, that we strongly recommend it to the perusal of all our obstetric readers; and, moreover, we think Dr. West would be conferring a benefit upon the profession by remodelling his paper, and endeavouring to make it somewhat more *definite*. We have experienced no inconsiderable difficulty in getting at the gist of his arguments and propositions, from the simple fact of his having introduced a *new* classification of his own. In the course of perusal, the terms *second*, *third*, &c., in consequence of their shifting application to cranial position, lose their material relations, and do not carry with them a fixed positional significance; they are like

> "Entity and Quiddity,
> The ghosts of defunct bodies."

It would be better to adhere to the current acceptation of the words, *first*, *second*, &c., and to discuss the question with *familiar* terms. This is a great help to all disputation.

An Introduction to Clinical Medicine. Six Lectures on the Method of Examining Patients, and the Means Necessary for Arriving at an Exact Diagnosis. By John Hughes Bennett, M.D., F.R.S.E., Professor of the Institutes of Medicine and of Clinical Medicine in the University of Edinburgh. Third edition, with numerous woodcuts.—Edinburgh: Adam and Charles Black. pp 174. 1857.

The volume before us is one of extreme utility and no small popularity in its native city. As a concise and eminently clear exposition of one branch of the art of medicine, it is invaluable to the student and junior practitioner. Its principal object is to serve as a guide to the author's own pupils. Dr. Bennett very well observes, that one of the great difficulties students have to encounter is the discovery of the *data* upon which their diagnosis must be founded. The data once discovered, once appreciated, the deductions are, in a large majority of cases, comparatively easy.

Whoever has had an opportunity of observing the enthusiasm with which clinical medicine is studied under Dr. Bennett's auspices at Edinburgh, and the rapid progress in the art of diagnosis made by his pupils, will have seen the practical justification of the admirable little book under notice. It is amusing to observe how the rambling and discursive inquiries of the commencing clinical student are gradually reduced to methodical investigation under his superintendence.

In course of time, everyone acquires a method of examining patients of his own. The important thing is to have a method. If a good method can be supplied, however, at the outset of medical practice, one which can be mastered by a few weeks' steady application, no small debt of gratitude is due to him who provides us with it.

The woodcuts are very good. The chapter on Skin Diseases we consider a triumph in its way. The hopeless confusion of dermato-pathology is reduced to a simple and comprehensive classification, founded on the anatomical characters of the several eruptions. The exanthematous fevers and the foreign skin diseases are judiciously dismissed from consideration. Each disease of each class is defined in a few sentences; so short that they may be readily committed to memory. In conclusion, we desire to recommend this lucid exposition of the art of diagnosis to our junior readers, well assured that they will find no better or more condensed information on the subject in any book in the English language.

The Change of Life in Health and Disease: a Practical Treatise on the Nervous and other Affections incidental to Women at the Decline of Life. By Edward John Tilt, M.D. Second Edition. London: Churchill. pp. 307.

The volume before us is an expansion of a much smaller one, which made its appearance some years ago. Dr. Tilt has now fairly occupied the field with a work, which, if it does not include all that is known upon the diseases of the climacteric period, is at all events a repertory of information upon a subject not very generally understood. The work is divided into twelve chapters: the first five are, an introductory, one on the physiology of the change of life, one on its pathology, one on its therapeutics, and one on its hygienics. Then follow chapters which treat consecutively of the diseases of the reproductive organs at this period of life, of the diseases of the digestive organs, and of the skin; the tenth treats of the diseases of the ganglionic nervous system, and the eleventh of the cerebro-spinal affections; and the concluding chapter is miscellaneous.

Thus as far as arrangement is concerned the subject of climacteric derangements is pretty nearly exhausted. Additional value is given to the volume by numerous interesting tables, which exhibit various physiological and pathological facts in a clear and definite manner.

Although, as a whole, Dr. Tilt has produced a work which we can recommend to the perusal of the profession, there are some few points in which we feel compelled to differ from him. In the treatment of the flushes, or "ardor volaticus" of women at the transitional age, no mention is made of a class of agents which we are disposed to place great reliance upon—viz., anti-spasmodics. Valerian and ammonia, assafœtida and musk, are not included in the therapeutics of this condition; and the bloodletting recommended appears to us to be a rather doubtful remedy, unless the "flushes" are coincident with evidence of other temporary local congestions of a grave character. Neither can we give our assent to the distinction drawn between syncope and fainting. The cases of sudden death quoted from Sir Gilbert Blane, and adduced from the experience of the writer as occurring after pernicious fever and delivery, would appear to us to be quite explicable by reference to the damage inflicted upon the heart by any serious cause of debilitation. The explanation given by Dr. Tilt of the manner in which a violent blow on the epigastrium produces death, does not appear incontrovertible; for the intimate connexion of the semilunar ganglia with the vagus nerve, and of the vagus with the heart, would appear to make it quite as likely that death, under the influence of a violent blow in this region, may be the result of a veritable syncope, as of the somewhat obscure "leipothymia."

The condition of women during the "dodging time" is often very complex, and includes a great number of morbid states. We have seen cases in which the hysterical diathesis of this period has been combined with epilepsy, hypochondriasis, pseudo-narcotism, and oxaluria. Such cases derive benefit from the use of mineral acids and strychnia. There is a familiar category of cases met with in hospital and dispensary practice, to which the name "charwoman's disease" might be applied; they occur about the climacteric period, but are the result of a long course of gin, and they benefit by morphia and other narcotics, which are not generally well borne by women at the critical period.

There is, however, a fund of practical matter in Dr. Tilt's book, and no small share of theory also, which is very clearly enunciated. As the best work on the subject of which it treats, we can cordially recommend it to the profession.

Edinburgh Essays. By Members of the University. 1856. Edinburgh: 1857. pp. 350. Adam and Charles Black.

The volumes of Essays lately published by members of the Universities of Oxford and Cambridge will be fresh in the recollection of many of our readers. We have here a similar undertaking from Edinburgh, and one quite worthy of a place by the sides of its able predecessors. In some circles these Essays from Edinburgh may not unlikely become more popular than their forerunners: they are more fluent in style; less cumbrous in *manège;* and, although dealing in part with matter of abtrusest relations, are, in these latter respects, more suggestively than definitively treated with. The two Essays with which we have been more pleased are the first, on "Plato," by the Professor of Greek; and the seventh, on "Sir William Hamilton," by Thomas Spencer Baynes. The former, by Professor Blackie, is, without being very deep in its grasp, sufficiently comprehensive; and, though not highly critical, is, in spite of its rhetoric, to a fair extent analytic. Plato, as Professor Blackie remarks, is an intellect of such a world-commanding class, that any man who has opinions at all must have some opinions about him, just as he has about Homer and Mahomet. If anyone is yet unsuited let him read the present Essay, and though he will be supplied with such as are only most general and superficial, they will, we think, be proved sure and safe ones to deal with. Not the least noteworthy of the author's manner is his forcible satire. Speaking of the sham and surface morality of the present day—a morality of utility and convenience, which pays respect to the principles of right and wrong just as suit the conventionalisms under which we may happen for the time to be living—Professor Blackie remarks:

> "A sermon may be a very proper thing as Sunday work, and may help to bridge the way to heaven when a bridge shall be required; but on Monday a man must attend to his business and act according to the maxims of his trade, of his party, of his corporation, of his vestry. Then the respectable turf-hunter will stake his last thousand on the leg of a racing-horse, and think it quite like a Christian gentleman to allow his tailor's bill to lie unpaid for another year; then the respectable Highland proprietor will refuse to renew the lease to the industrious poor cottar on his estate, that the people for whom he cares nothing, may make way for the red deer, whom it is his only passion to stalk; then the respectable brewer, instead of preparing wholesome drink from wholesome grain, will infect his brewst with deleterious drugs in order to excite a factitious thirst in the stomach of his consumers and increase the amount of drinking; then a respectable corporation, to maintain their own 'vested rights,' will move heaven and earth to prevent the national parliament from acting on the plainest rules of justice and common sense, in a matter seriously affecting public well-being; and the respectable members of society shall flutter round the gilded waxlights of aristocracy, and perform worship at Hudson's statue, and have respect to men with gold rings and goodly apparel, and do everything that is expressly forbidden in the second chapter of the Epistle of James, which they profess to receive as a divine rule of conduct. These are only one or two of the more glaring points in which our commonly-received maxims and practice of respectable British life run directly in the face of that highest morality which the most religious and church-going Englishman professes to acknowledge as his rule of conduct. Exactly such an issue Plato had with the respectabilities of Athens in his day." (p. 36.)

Mr. Bayne's memoir—for it virtually is one—of Sir W. Hamilton shows itself to be the produce of a true labour of love. Of course by all, except a few, the commanding intellect of the author of the "Discussions in Philosophy, &c.," must be immeasurable in its magnitude, and *to those few* it is startling in its extensive power. Mr. Bayne's essay will be read with great pleasure by all old Edinburgh students who can recall such peripatetic philosophical pastime as the author has feelingly sketched at page 291. Essay IV., "Infanti Perduti," by Andrew Wilson, has in some points gratified us. In it will be found a defence of the eccentric Edgar Allen Poe—the first defence of him we happen to have met with. Dr. Gairdner has an article on "Homœopathy." In itself, it is all very satisfactory, but truly it is making that worst of all absurdities of so much consequence, that we had rather the latter had now been left to slumber on in comatose stupidity than thus to find a place in this first series of "Edinburgh Essays" by the side of Plato and the modern Stagyrite Hamilton. The remaining articles are, "Early English Life in the Drama," "Progress of Britain in the Mechanical Arts," "Scottish Ballads," and "Chemical Final Causes," articles, we may state, well worthy the reputation of their respective authors.

Miscellaneous Correspondence.

A NOTE ON THE TREATMENT OF THE POISON OF STRYCHNINE.

To the Editor of THE LANCET.

SIR,—I send you, for your department of "Correspondence," a few lines on the treatment of the poison of strychnine.

Judging from many experiments, I believe that strychnine destroys life in *three* ways:

1. By inducing *laryngismus* and apnœa (or asphyxia);
2. By inducing exhaustion of the nervous power, the effect of spasm and pain; and
3. By a secondary asphyxia.

The *first* object in the treatment is, of course, to get rid of the poison. Emetics must be given. But if these fail, the hopeful remedy is, to place the patient *prone*, and in the interval between the spasms, to tickle the fauces with a feather or other object.

The *second*—the important remedy, is—*tracheotomy*. In my experiments, I gave the same poisonous dose of the acetate of strychnine to *each of two* dogs, and performed tracheotomy in *one*; and left them undisturbed for the night. The one in which tracheotomy was performed, *lived*; the other infallibly *died!* Tracheotomy disarms laryngismus of danger—of its apnœa.

The *third* remedy is—the *Ready Method*, with two objects: the first to administer respiration as the remedy for the *effect* of the laryngismus, &c., apnœa or the suspension of respiration; the second, adding tickling to the fauces, again, to empty the stomach; a third may be, even when all spasm has ceased, to *continue* the alternate pronation and rotation, that is—respiration,—in the hope that life may be continued until the poison may be eliminated from the system, as well as mechanically regurgitated from the stomach.

I am, Sir, your obedient servant,
MARSHALL HALL, M. D., F.R.S., &c.
February, 1857.

P.S. Strychnia is now the most detectible of poisons. It produces the most terrible of deaths.

TO WHAT AGE DO WE LIVE?

To the Editor of The Lancet.

Sir,—The exaggeration and credulity with respect to the age of old people has recently been exposed in your paper, as to the case at Harrow; and no doubt if similar researches were always made, it would appear that the stories current as to excessive age invariably rest on exceedingly small foundation. The late work of Dr. Bailey gives in no case any evidence whatever, and many of the cases given by him are notoriously unfounded. The author of the article in the current *Edinburgh Review* seems to believe that persons have reached much more than 100 years, but does not pretend to say that any one case, except that of Old Parr, is authentic. Would some of your readers kindly inform me where the account given by Hervey of Old Parr is to be found? and what was the evidence in that case? Those persons who are alleged to have attained great ages are invariably of obscure origin, and even if the register of the birth of a person of that name is to be found, as appears by the Harrow case, it by no means follows that it is the same person. This much is certain, that persons about whom there can be no doubt never reach these great ages. There is not, I believe, a single peer above ninety years of age. I have searched carefully through the Law List, the Cambridge Calendar, and the Oxford Calendar, and there is not a single barrister or graduate on the boards, who, judging from the age of call or graduation, is at present more than ninety years old. Trusting that this may elicit further information,

I am, Sir, your obedient servant,

London, February, 1857. C. M.

THE GREAT TOBACCO QUESTION: IS SMOKING INJURIOUS TO HEALTH?

EFFECTS OF SMOKING ON LONGEVITY.

[LETTER FROM PETER EADE, M.D.]

To the Editor of The Lancet.

Sir,—The general question of the effects of tobacco-smoking upon the human system having been pretty fully discussed, and the various arguments for or against its use brought before the notice of the profession, it appears to me that a step in advance should now be taken—viz., from the general to the particular; and the classes of mankind being taken one by one, the special effects produced upon them, according to the habits or peculiar circumstances of their component individuals, investigated.

We have no reason to suppose that the writers in The Lancet upon this subject have not all honestly stated their opinions; and there is equally no reason to doubt that these opinions have been founded upon more or less distinct experience; and, if so, it follows that, under different circumstances, tobacco produces very varying effects, these effects being owing to other causes than the varying quantity which may be employed. For this controversy, therefore, to be productive of lasting practical good, an effort must be made accurately to discriminate the special circumstances under which these opposite results ensue.

Mr. Watson and Dr. Bucknill have contributed to the elucidation of its effects upon the insane of both the pauper and educated classes. What is its special influence upon another class—that of the agricultural labourer? To endeavour to ascertain this, I have inquired of ten men, now occupants of what is termed "the old-men's ward," in a workhouse in this county, whose whole lives (with one slight exception) have been passed in rural occupations, and all of whom are smokers, what was their general feeling upon this subject, and what their personal *experience* in the matter; and their unanimous answer was that they have never experienced any inconvenience from smoking, and are quite sure that it never did them any harm.

The united ages of these ten men give an aggregate of 665 years, and an average for each of 66½ years. The total number of years they have smoked amounts to 268, or on an average to 26⅘ each man. Their respective ages, and the number of years they have smoked, being

Age.	Years of smoking.
65	30
71	50
77	30
66	30
63	30
68	40
68	44
70	6
38	3
79	5
Total..665	268

Seven of these, who have smoked continuously for many years, have attained their present good old age, with as little of bad health as falls to the lot of most men; and of the other three—one, a hearty and intelligent old man of seventy-one, smoked for twenty years, gave it up on leaving the army (for no very particular reason, and certainly not because he thought it did him any harm); and now, after twenty more years, has resumed the habit, chiefly to pass away time; and the other two, who are sufferers from chronic disease, did not commence the habit until after the invasion of their malady.

Here, then, we have ten consecutive smokers all of the same class, and all placed under similar circumstances, testifying to the innocuousness of smoking as far as they are concerned, and expressing their conviction as men who have nothing but their own experience to guide them; and though the number I have been able to quote is but small, yet the feeling here expressed affords a very good type of what I believe to be the prevalent one amongst the poor of this agricultural district.

They esteem their tobacco a positive luxury; it soothes and pleases them at the time, and soon from habit, if not at first, it causes them no after-inconvenience. Without doubt, the circumstances in which the agricultural labourer is placed, of abundance of fresh air, and great development of his muscular system, are such as oppose most powerfully the action of any nervo-muscular depressant, and enable his system very speedily to establish that *tolerance* of the agent which so soon follows its habitual employment. But whatever the cause, the examples I have adduced serve to establish the fact, that the class—husbandman—does not itself consider that it sustains injury from the use of tobacco in the ordinary mode of its indulgence in it.

In other cases of life, too, I know many individuals who declare, in answer to specific questions, that they have never observed any ill effects to follow from the moderate enjoyment of their daily allowance of one, two, or three pipes; and I could quote *examples* of what would appear to be an absolutely beneficial action; to one man, as his most gentle and pleasant aperient; to another, the man of thought, as his readiest means of soothing a restless mind, and conferring the power of concentrating his ideas; to others again, as a powerful stimulator of their mental faculties. All of these state their conviction that a large consumption of tobacco does them harm; but they also express an equally strong opinion that a certain small quantity produces no appreciable injury. That tobacco-smoking in an extreme degree may produce great nervous and cardiac depression, we must allow to be proven; that many individuals exist whose systems cannot be brought to tolerate the action of the drug even in small quantity, appears equally certain; but that a very large number of persons cannot be shown to have sustained injury from a life-long but moderate enjoyment of their "weed," inquiry amongst the general population fully convinces me. Whether a most potent argument against tobacco, on the ground of its being a social nuisance, and militating against the comfort and agreement of families, could not be brought forward, is another question, for the solution of which we must refer, not so much to the medical profession, as to the female members of households.

I am, Sir, your obedient servant,
PETER EADE, M.D. Lond.,
Norwich, March, 1857. Physician to the Norwich Dispensary, &c.

AN EXPERIMENT IN SMOKING.

To the Editor of THE LANCET.

SIR,—The following simple experiment will surprise all smokers and probably many of the profession:—If the mouth be filled with smoke, and a white handkerchief placed over the lips, and the smoke forced through the handkerchief, the essential oil of the tobacco will be found deposited upon the handkerchief, it acting as a filter. By this it would appear that the poisonous oil is positively in the *smoke*.

Yours, &c.
W. G. J., M.D.
March, 1857.

PAPER CIGARETTES.

To the Editor of THE LANCET.

SIR,—It has been stated that the paper cigarettes have the effect of producing cardialgy and of drying up the stomach to a greater degree than the pipe or cigar. This may account for the insatiable thirst of Spaniards. Allow me to ask whether it may not be in part caused by *arsenic* being extensively employed in the manufacture of white paper.

I am, Sir, your obedient servant,
A PAPER MANUFACTURER.
March, 1857.

BURTON ON TOBACCO.

To the Editor of THE LANCET.

SIR,—Since the discovery of tobacco in Yucatan by the Spaniards, during the first voyage of Columbus, the world has been divided in opinion as to the value of the plant, either as a luxury or as a remedy in some extreme cases of disease, and also as to whether it is deleterious or otherwise in its agency on the human constitution. The case is no better now. The discussion in THE LANCET proves that the world is not much wiser at this time; and besides, there exists, it is quite evident, a great deal of prejudice, and not much argument for and against its use as a luxury at this present moment. Then who is to decide? Each one gives separate views, which have been arrived at by individuals possessing all the variety of constitution and temperament it is possible to conceive; and therefore I shall not venture to decide for others that I know nothing of, but only for myself and those who may consult me specially on the subject; but since you have invited us all to speak, I will make a few general remarks to the point.

In the first place the *instinct* of all men is against the excessive, or even the free, use of tobacco, and in reason and in conversation its use is only tolerated as an occasional habit. By tobacco I mean, not the vile stuff sold under that name, but the pure unadulterated leaf, either in the form of "baccy rare" or of the best Havannah cigars, very much out of reach of most persons, because of their price, and recognised only by the "chosen few" *when really to be obtained.*

In the next place, all men of observation and experience (and who is without this last now, when all men smoke and some women!) must be able to point to instances of disease and derangement from the abuse of this luxury, either to the common irregularity in the heart's beat, sickness and faintness, or to paralysis and atrophy of the testes, sometimes caused by excessive smoking. On the other hand, they must also have been witness to or have experienced the beneficial effects of the "weed," where it has been used with judgment and discretion. They must also have seen that the habitual daily use thereof is for the most part injurious, and the occasional and medicinal employment of it of great and especial service; that it is either a benign sedative, an aperitive, a gentle stimulant, or a most pernicious poison, according to its method of administration. Hear the words of old Burton concerning it, which are as much to the purpose as anything that can be written:

"Tobacco, divine, rare, super-excellent tobacco! which goes far beyond all their panaceas, potable gold, and philosophers' stones, a sovereign remedy to all diseases. A good vomit, I confesse; a vertuous herb, if it be well qualified, opportunely taken, and medicinally used: but, as it is commonly *abused* by most men, which take it as tinkers do ale, 'tis a plague, a mischief, a violent purger of goods, lands, health, divelish tobacco, the ruine and overthrow of body and soul."—(Vol. i., 1805.)

I remain, Sir, your obedient servant,
James B. Prowse. M.R.C.S.

Clifton, March, 1857.

EFFECTS OF TOBACCO IN AGUE, &c.

To the Editor of The Lancet.

Sir,—A short time since, when assistant-surgeon in the Royal Lincoln Militia, I had under my care a good many cases of ague, amongst which relapses were very prevalent; these I invariably traced to the use of tobacco, nor could any permanent cure be effected until the strictest precautions were taken to cut off the supply of that luxury. Although fully convinced of the bad effects of tobacco in any diseases of a febrile type, I think there is strong evidence to show that the habitual smoker, when suffering from wounds or other injuries of an irritating or debilitating nature, may derive considerable benefit from its use. I was led to this conclusion whilst having under my observation a number of wounded men from the Crimea, who were allowed to smoke.

I have the honour to be, Sir, your obedient servant,
Wm. Dymock, M.R.C.S.

Kingswood, near Bristol, March, 1857.

IS SMOKING A BLESSING?

To the Editor of The Lancet.

Sir,—A "Philanthropist," regards my assertion, that tobacco is a blessing, as "strange;" but, I add, *true*. If tobacco prevents a too rapid oxygenation of nervous tissue; if, which in mine and many others' experience, "emollit mores, nec sinit esse feros;" if created things are not cursed *per se*, but only because we *abuse* them; if, according to Pereira, tobacco produces a remarkable soothing and tranquillizing effect; if "vox populi est vox Dei;" if things can be both strange and true;—then tobacco is a blessing. Trusting that truth, though strange, will prevail,

I am, Sir, yours faithfully,
Walter Sumpter.

Horncastle, March, 1857.

SMOKING AND DELIRIUM TREMENS.

To the Editor of The Lancet.

Sir,—As no class of men smoke more than medical students, some of their experiences would help to solve the Tobacco Question. One of the "fraternity," says he smoked for two years, and always felt sick (?) after a pipe. On some it has this effect; others feel languid, others excited, and others soothed. Indeed I believe the same quantity will have all these effects on the same person at different times; at least I find it so in my own case, and that from the same kind of tobacco, and the same pipe. There can be no doubt it quiets hunger; and if one feels irritable, it puts him in a more amiable state of mind. Smoking in excess will produce delirium tremens. The following is a case in point:—An undergraduate of Oxford had a mania for colouring "clays," and sat up at night for no other purpose than to smoke. In time he had delirium tremens. It has been asked, why do people smoke? Very few enjoy their first pipe, but in almost every case they continue, because it is thought "the thing;" it then becomes tolerable to them, then a pleasure, then a habit, then a necessity. It was stated in one of the first letters on this subject that leeches, fleas, &c., would not bite a smoker. This I can confidently say is a mistaken idea; for the other day I put six leeches on for a friend who smokes from four to six ounces per week, and all took but one, and remained on the usual time; some of them lived a fortnight afterwards. Fleas are particularly partial to me, and I am always attacked at midwifery cases, where all students *attending* in London must know they are pretty *abundant*. I also think smoking promotes expectoration. This might be worth a trial, though it will never be given to the public as an expectorant. When a person comes into a room where there is smoking, it make him cough; directly he takes a pipe himself he is easy. Why is this?

I am, Sir, yours obediently,
O. Studens.

St. Bartholomew's Hospital, March, 1857.

WHAT IS MEANT BY MODERATE SMOKING?

To the Editor of The Lancet.

Sir,—What is *moderate* smoking? I am acquainted with a baronet who consumes on an average *three* dozen cigars *daily*. The inveterate smoking sailor (in addition to chewing), as stated during this controversy, consumes sixteen ounces of tobacco in a month, and yet both of these considers themselves *moderate* smokers! In Milton's life, it is mentioned by his biographer that he only smoked the last thing before retiring to rest one small pipeful of tobacco, drinking a glass of water after so doing. Milton, therefore, must be said to be the type of moderate smokers! In Shakspeare's time, smoking was practised, and yet in none of his plays does he make mention of tobacco. But Lord Bacon, the Christison and Pereira of those days, says, "Tobacco smoking is a secret delight, serving only to steal away men's brains." It is a well-known fact that our Premier, Lord Palmerston, (who perhaps requires more soothing agents &c. than any man living,) is a bitter opponent of the weed, and on every possible occasion, when addressing his tenantry and the labouring classes, takes care to denounce it in the following words: "Avoid the public-house as much as you can, but always steer clear of the tobacco shop."

I am, Sir, your obedient servant,
VERBUM SAT.

March, 1857.

P.S.—As tobacco is a strong narcotic poison, the medical profession should be called on to regulate the doses or quantities to be smoked, and to determine "What is meant by moderate smoking."

TOBACCO QUERIES—WHEN TO BEGIN SMOKING?

To the Editor of THE LANCET.

SIR,—Our facetious friend, *Punch*, makes Mrs. Blue Stocken (Minerva Hall, Bath) to ask, "If smoking is not injurious, perhaps you will have the kindness to inform me why *we* ladies are not allowed to smoke?" This leads me to ask, if smoking is ever prescribed for *females* in lunatic asylums? Dr. Conolly, in his recently published work on the "Treatment of the Insane," says: "In very few instances do I allow a very small quantity of tobacco, but only occasionally." This, no doubt, is on the *similia similibus* plan. Knowing the effects of the *first* pipe or cigar on the constitution, I take it for granted that Dr. Conolly would only order it to those patients, of *either* sex, who had been smokers *previous* to their admission. Dr. Webster insists that smoking causes insanity, and supports his *dictum* by *statistics*.

I can confidently assure "A Philanthropist," that crime keeps pace with the *increased* consumption of tobacco! ("Smoking leads to Drinking.") Statistics will bear me out in this assertion. Witness the necessity of providing "reformatory schools" for juvenile delinquents—*the inveterate smokers* of the present day. Our medical brethren having charge of those valuable institutions, no doubt, will favour us with the results of their experience in the colums of THE LANCET. Smoking, by no means, should ever be attempted before the twenty-fifth year, or before the human frame is fully developed.

I am, Sir, yours, &c.,
"AUDI ALTERAM PARTEM."

March, 1857.

CAUTION TO SMOKERS!

To the Editor of THE LANCET.

SIR,—The nicotine and empyreumatic oils coming in contact with "the *spurious* gold mountings of artificial teeth, and very many of the mineral stoppings for decayed teeth," produces *verdigris*, as all chemists are aware; consequently much of this last must find its way into the stomach! Many of the cheap pipes are provided with tin, Britannia metal, and German silver tubes, all of which are highly dangerous to use. It follows that only pure leaf-gold should be used for stopping teeth, and that none but respectable dentists should be employed.

I am, Sir, your obedient servant,
PHILANTHROPUS SECUNDUS.

March, 1857.

ARE OUR PRESENT GREAT STATESMEN SMOKERS?

To the Editor of THE LANCET.

SIR,—It would be most interesting to ascertain whether the "leading men" in the House of Commons are smokers. Many of your thousands of readers must be in a position to supply this information.

I am, Sir, yours, &c.,
E. M.

March, 1857.

CAN TOBACCO BE DEPRIVED OF ITS INJURIOUS PROPERTIES?

[LETTER FROM W. SETH GILL, ESQ., M.R.C.S.]

To the Editor of THE LANCET.

SIR,—In this age of blast and counterblast, of alcoholic libations, temperance, and tobacco, there appears to be no safety except in the determination to abstain, or to pursue the middle course. Such seems the result of the arguments hitherto proclaimed, although the prejudices and habits of various countries and of individuals, the peculiarities of climate, of constitution, and of mind, from the poor man to the noble, in our own little island and abroad, have tended to confirm the use of tobacco, and made it almost essential to life and health. Science throws down the gauntlet, and appeals to man's reasoning powers in her *argumentum ad rem*, condemning its seductive influence as dangerous to the wellbeing of society, and subversive of its salutary and vital interests. If this be so, which has not been satisfactorily demonstrated to my mind (as I acknowledge to be no cynical non-fumist), I feel persuaded that there are men of the present generation who will step forward in the right direction to convince their brethren that they may use, but not abuse, the gifts of their Creator.

In the "Chemistry of Common Life," next to salt, tobacco is said to be most extensively consumed throughout the world. Before Columbus was born, or Sir Walter Raleigh brought it within the precincts of the Elizabethan court, the aborigines of Central America rolled up the tobacco-leaf, and smoked away their lives in dreamy reveries, without dread of danger, without the refined ideas of modern science, the fear of disease, or of premature death. Other examples are not wanting to establish the fact, when nations, for centuries, have imbibed its influences with no marked increase of disease or deterioration of life and health; and even under the stigma which is attached to its abuse at the present moment, how many revel in its innocuous perfume. I am satisfied that there never existed a more favourable opportunity of conferring a boon on mankind than now presents itself, in rendering tobacco harmless by depriving it of its injurious properties. A fortune might be made by any chemist who would undertake the carrying out of so perfect an antidote to the *full* enjoyment of tobacco, if accomplished without destroying its more genuine properties. Should this hint arouse the dormant energies of science, it will become the resolvent of this much-debated question; or, should it fail to do so, medical statistics and ethics must arrive at more definite conclusions before the indescribable gratification of smoking becomes a myth. Although we have the authority of *Mr. Punch*, who states "that no other animal but man smokes," he forgets that woman occasionally revels in its perfume, and that monkeys both chew and smoke tobacco —in fact, one in my possession did so, and asked, as well as he could, for the ends of my cigars, which he appeared to enjoy, but he was first taught to do this. How far the lords of the creation approach these, it is said, aboriginal imitators, must be left to circumstances and time to determine.

The medical profession have, at all times and under great difficulties, done much, both by precept and example, to counteract the ills of life; to it must be consigned the true merits of the present question, unless the infinitesimal system, called homœopathy, be the remedy, which in all other matters is a direct fallacy and an incontrovertible system of humbug. Placed in opposition to the extreme opinions of Lizars, Prout, Christison, and others, it might thus become the means to the end, and prevent the accumulation of suffering and disease so ably portrayed by these careful and practical physiologists; in contradistinction to which, I must respectfully introduce the great minds of bygone ages, who have handed down to us their sublime and lofty conceptions, under the influence of this subtle but consoling weed. How, then, can we conclude that it impairs thought or produces, as Webster asserts, insanity? Was it a logical deduction of Johnson, Goldsmith, Milton, and Newton, to have consumed a poison, feeling its injurious and narcotic power? It has been stated that the latter never smoked. I remember reading an anecdote of his days of courtship, at which period Newton's modesty was proverbial, and his oblivion great. The lady approached him to enjoy his conversation whilst smoking; she gave him her hand, and, in his reverie, he used her finger as his tobacco-stopper. Be this as it may, tobacco has been the theme of poets, prompting alike their memory and imagination; and while we confine ourselves to its use only, and appeal to the morality, judgment, and good sense of the modern Englishman and the moderate smoker, this interesting subject will be limited to harmless bounds, and we may consider tobacco as amongst the beneficent gifts of an omniscient Being, subservient to our actual wants. If we abuse such gifts and employ them to our degradation, we are no longer worthy, and should forego their use.

The dictates of Nature, under disease and health, are worthy the consideration of my countrymen; and I appeal to them—at least those who are defenders and promoters of right principles, and value the position and superiority of race, of their country, and its institutions—whether they will consent to any degeneracy or risk, by self-indulgence in the practice and inculcation of a habit which is said to threaten their mental and physical superiority. I must not pass over the distaste experienced, and the intolerance felt, by all smokers and snuff-takers, under a state of derangement or disorder of the animal functions, or abnormal condition of their body, illustrating, as it does, the pathological law, that two morbid states seldom or never exist in the same person, while it affords one of the best refutations to the over-indulgence of the habit, and admits of its total abandonment without injury. I cannot impress this fact too forcibly on public attention, as in the humble effort thus made to establish a safe course to pursue in the enjoyment of a superfluity perhaps, if I should be fortunate enough to rescue some hitherto moderate smoker from degenerating into excess, I shall feel that my labour has not been in vain. If I fail, I have the consolation of anticipating that science will be able to define the true point where injury commences, or disease begins; till then we must be satisfied, as in the search for truth, to rely on no man's sophistry. In this question, as in others, idiosyncrasies will arise, and must be combated; but let us take care *that*, with increased intelligence, we do not draw too deeply, or infringe improperly, upon our honesty.

I have the honor to be, Sir, your obedient servant,
W. SETH GILL.

Pentonville, March, 1857.

SMOKING AS A REMEDY AND AS A POISON.

[LETTER FROM THOMAS HAWKSLEY, M.D.]

To the Editor of THE LANCET.

SIR,—As you have invited contributions of facts in illustration of the effects of tobacco, and as, in the course of some observation of its employment, it has fallen to my lot to witness two or three striking and more than usually precise instances of its effects, I venture to trouble you with them. The two first instances relate to its employment as a "remedy."

Some years back, a woman, aged forty, complained that, having been salivated a considerable time before (ten years, I believe), she had never ceased from that time to suffer from its effects, in the way of a constant and extensive flux of saliva, which obliged her to spit day and night. She had, of course, sought many doctors, and tried divers remedies in vain. She had not been long under my observation before she gave me this statement—viz., that while suffering as usual she thought she would try the effect of her husband's cigar on the spitting; that she had several times smoked for a few seconds, and that a certain degree of relief to her symptoms had followed the act. I advised her to try it further, and the most complete success attended the unlooked-for remedy. Within ten or twelve days she was cured of the malady of years.

About two years ago another case of extreme salivation came under my care, in which all the reputed remedies had been tried in vain—iodide of potassium, sulphur, sulphates, leeches, fomentations, &c. At last the instance just related was recalled, and, as a *dernier ressort*, the poor patient consented, though with the greatest pain and difficulty, to smoke a cigar. Within the first few hours considerable benefit was experienced; the swollen tongue was reduced into the mouth, and the saliva ceased to run over the lips. The next day she could swallow some food, and within a week or ten days the mouth was in a perfectly normal condition.

The next instance illustrates its poisonous action:—A little before the sailing of the first expedition to the Baltic, some four years back, one of its gallant commanders was visiting at the house of a friend who was a great smoker. The latter was a remarkably fine man, about fifty-six years of age, and usually in the possession of excellent health. For thirty years he had been an inveterate smoker; he ate and drank freely, though not to excess, and was accustomed to take plenty of exercise in the country air. He had been complaining for some weeks of a feeling of oppression and tightness in the chest, which led his medical adviser to apprehend some mischief about the heart. His naval friend first alluded to wished him to seek further advice, which he refused to do in the belief that he was recovering. The former gentleman then, to satisfy himself, wrote to his own physician, and related the symptoms, habits of life, &c., of his friend, and requested his opinion. About the same time he had to leave for Portsmouth, where, within a day or two, the answer of his physician reached him. It was to the following effect—viz., that the symptoms were due to *narcotism of the heart*, induced by excessive smoking; and it went on to predict that, unless some modification were made, his friend would probably drop down dead some day; that the effects of the tobacco had so far been considerably neutralized by exercise and generous diet, but that the evil day was only deferred, not evaded. Within two or three days of the receipt of this opinion and prediction, the same gentleman, on taking up his morning paper, to his great horror, saw an account of the sudden death of his friend. He immediately resolved to return to the scene and learn the particulars of this mournful event. He found that, on the morning of his friend's death, the latter had arisen in his usual health and spirits; that after breakfast he walked to the railway station, and travelled by rail a few miles to visit a relative; that, arriving at the house, he was ushered into the drawing-room, while the servant announced him; and that his relative, going to him almost immediately, found him lying dead on the hearth-rug. Medical aid was instantly at hand, but to no avail. The coroner's investigation into the cause of death happened to be proceeding at the time of his friend's arrival. A careful post-mortem examination had been made by the surgeons in the neighbourhood, and they had failed to discover any sufficient cause for the sudden and fatal event. Heart and brain were sound, and the whole body was remarkably free from disease. In this dilemma, the letter of the physician, in which the prediction and the cause had been indicated, was read, and the unanimous opinion of the professional gentleman assembled was, that it afforded the only possible explanation of the facts.

I refrain from commenting on these cases, both from a regard to the value of your columns, and from the belief that the various opinions of men on this question are at present so inadequately supported by accurate observations as to make reasoning on the subject unsafe and illogical. Permit me only to suggest to those amongst us who are exact analysts, and who can wield Ithuriel's spear, that possibly one of the greatest adulterations of the day is the human blood, and that, if skilfully searched, it might be found to bear chemical or microscopic evidence of the accumulation within it of the poisons of tobacco. Dr. Garrod's beautiful demonstration of lithic acid ought to stimulate us to work assiduously at this feature of disease—the fountain head probably of so many of the ills we inherit or acquire.

I remain, Sir, your obedient servant,
THOS. HAWKSLEY.

George-street, Hanover-square, March, 1857.

TOBACCO AND CRIME.

To the Editor of THE LANCET.

SIR,—What proportion do *male* prisoners bear to *female* criminals? This may help us to solve "Whether Smoking is a Blessing?"

I am, Sir, yours respectfully,
Q. E. D.

March, 1857.

THE SMOKING CONTROVERSY.

"Sublime tobacco! which from east to west
Cheers the tar's labour, or the Turkman's rest."—BYRON.

With your permission, Sir, in verse I'll try
The controversy to diversify;
Though smoke my theme, I'll not write fumingly,
Is smoking, Sir, to be, or not to be?
The controversialists seem all at sea—
Why will our doctors always disagree?
Solly, and Tyrrell, and profound Lizars,
Would frighten landsmen and our jolly tars.
Smoking is class'd amongst a nation's crimes
(*Vide* THE LANCET, also see *The Times*).
Tyrrell declares this smoking use of ours
Destroys—pray think of this!—our virile powers!
If such effect does spring from such a cause,
All I can say is—it "must give us pause;"
But let us hope some unexplain'd confusion
Led to the doctor's "impotent conclusion."
The learned trio, and a host declare, too,
Smoke causes all the ills that "flesh is heir to;"

But still, such theoretical assertions,
Unprov'd by facts, will not effect conversions;
I'd give a list of ills set forth at times,
Only they're not "adapted to my rhymes."
Jack chews his *quid*—it cheers his labour, true;
But, Jack, henceforth your quid you must *eschew:*
'Twill make you soft, effeminate, and lazy,
And smoking, too, may also drive you crazy;
But Jack will scarcely know what all this means,
And so he'll say—"tell *that* to the marines!"
I'm very much in honest Jack's position,
In doubt if smoke consigns us to perdition;
If true, for years, a sinner I have been
Inhaling deadly poison, *nicotine*,
And yet I feel—excuse the phrase—"serene."
But still, I ask (and really I am serious
In what I ask), is smoking deleterious?
Will smoking, and I mean in moderation,
Tend to emasculate the British nation?
Or is that theory a hallucination?
The *abuse* of smoking is another thing—
Of course, excesses always leave a sting;
The good effects are questionable enough,
And may the evil all turn out a *puff!*
Let us have facts, indisputable facts,
That *prejudicially* tobacco acts;
Let those be clear as two and two are four,
And then, but not till then, I'll smoke no more.
One thing is certain, therefore I'll advance it,
We all are much indebted to THE LANCET.

QUID.

Medical Annotations.

"Ne quid nimis."

So responsible are the duties which devolve on a Coroner, that the slightest deviation from the path of strict and impartial justice opens the way to the most disastrous consequences. There is no judicial post that demands more unerring firmness and more ready judgment. Hence have we always advocated the appointment of medical men to fill these offices. Their profession necessitates a constant cultivation, even from their youth, of the qualities above cited. It moreover endows them with the knowledge by which alone truth can be elicited in the majority of the cases that become subjects of inquest. When a coroner is not thus qualified, it is his duty to avail himself, to the fullest extent, of the scientific aid which the law empowers him to summon to his assistance. But, we fear, considerations which should not be allowed to weigh in the scales of Justice, are sometimes entertained. Cases of strong suspicion are allowed to escape without thorough investigation; and very terrible are the consequences that occasionally rise in testimony against such inefficient fulfilment of a serious and most responsible duty. Illustrative instances are fresh in the minds of all. A murderer is detected, and the bodies of previous victims, when exhumed, afford abundant proof of the previous commission of a similar crime, which thorough scientific examination would have inevitably disclosed, and thus have warded off the blow from those subsequently sacrificed:

"Blood hath been shed ere now i' the olden time,
Ere human statute purg'd the gentle weal:
Aye, and since too; murder has been perform'd
Too terrible for the ear;"—

murder which remained undetected because there was omitted that searching examination of the body of the victim which should be instituted in every case where the cause of death is unknown.

Had we to invent a case that should strikingly illustrate the impropriety of omitting a thorough scientific investigation, we could not fit our argument with a more fit example than was presented by an inquest recently held at Bradford, Yorkshire.

The clerk of the neighbouring Union of Brierly, after having fallen into great pecuniary difficulties, and having, in fact, malappropriated a portion of the funds confided to his charge, was taken suddenly ill, and, in a few hours, died. At the inquest, the coroner expressed his wish to treat this as an ordinary case, without a post-mortem examination, and (when the surgeon very properly urged the necessity of one being performed) said that he was not disposed to pay for the necessary analysis. The investigation was, however, made; as Mr. Kaye, the surgeon, very rightly stated that he would not give an opinion as to the cause of death without. There was then discovered indubitable evidence of poisoning, by a large dose of opium; of which a sample was taken from the stomach. The jury returned a verdict that the deceased had died from taking the poison while suffering under temporary insanity. No evidence was called to prove this "insanity;" no judicial inquiry was instituted as to where such a large quantity of poison had been purchased; nor was there the least evidence to show it was the hand of the deceased that administered the poison. There could be little moral doubt that *such* was the case; but, poison having been detected, *it* was due to the relatives that some effort should have been made to ascertain that the verdict was true.

SYDNEY SMITH said that railway accidents would never receive proper attention until a bishop had been smashed by one. No ecclesiastical Quintus Curtius has yet offered himself for immolation; and, therefore, the little attention hitherto bestowed on the subject has led to nothing in the way of improvement. But if the postulate of the witty divine equally apply to other subjects, we may entertain hope that a check will soon be put to the indiscriminate sale of poisons. On the last night of the last session the Marquis of Westmeath informed the House of Lords that a child of one of his own relations had been poisoned by medicines which a boy in a chemist's shop at Worthing had improperly prepared. This, said his lordship, proved the necessity of some restrictive measure, and he wished to know what Government proposed to do. As Government was just then at its last gasp, and itself dying from the effects of a poison of wondrous subtlety, being "stung to death by slanderous tongues," no definite statement was made as to the steps that would be taken, now that the child of a relation of a member of the House of Lords has suffered. Of course the matter was stated to be under the consideration of Government. Equally of course there were innumerable difficulties hedging round the subject. Lawgivers seem to forget that it is only the fact of the existence of these difficulties which makes legislation either necessary or desirable.

THE particulars of the diabolical attempt to poison the inhabitants of our Colonial settlement at Hong-Kong have now been received. To the early detection of the symptoms was probably due the preservation of the lives of many of our fellow-countrymen. The *Hong-Kong Register* states that it is the custom of the Parsees and other Eastern inhabitants settled in the colony to take an early first breakfast. Some of these were soon after seized with symptoms of poisoning, which were at once recognised by the medical man summoned to attend them. Though living in different districts, the bread was supplied to all from the same Chinese bakehouse. The cause of the attack was hence recognised, and on analysis arsenic was found abundantly present in the bread. Many of the English residents suffered severely—none more than the family of Sir John Bowring; but luckily none died. The attendants of the bakehouse, forty-nine in number, were arrested; but the chief baker (whose name was the singularly appropriate one of Allum) had fled with his goods and wife,—bag and baggage.

A LARGE meeting, conducted with great solemnity, was recently held in the Church of Canastota, N.Y. Its object was the reformation of women's dress; to trundle out "the hoop's enchanting round," and generally put down stays, crinoline, and other female vanities and vexations of both body and spirit. Though the meeting principally consisted of ladies, the chief speaker was a Dr. Jackson; whose wife must have a dreadfully hard time of it if they put to the test on her person the schemes of physical education he enumerated whilst "proving by incontrovertible arguments, based upon well-established facts and data, that the present existing disparity between the sexes was the result of a false physical education, and to a great extent induced by dress incompatible with the full development of physical organization, by which the spiritual action was detrimentally affected!"

Setting aside the spiritual question as both irrelevant and irreverent, the question of woman's dress is one of serious importance. There can be little doubt that when our foremothers were encased in steel and whalebone,

"Many a childing mother, then,
And unborn infant died"

from the distortion produced. For Spigelius tells us that the English women, in his day, were addicted above all others to this evil habit of tight-lacing. And even in these enlightened times

"With Chinese painters modern belles agree:
The point they aim at is deformity."

If we compare the outline of the Venus de Medici with that of the bust of a modern female "glass of fashion and mould of form" on whom whalebone has done its worst, the possible mother of the next generation presents an appearance scarcely more natural than that of a Chinawoman's foot.

It is, however, by no sudden revolution that a change for the better is to be wrought. Strong-minded women who at once assume the garments that cannot be taken off a Highlandman, and attire themselves like Zuleikas or Gulnares in blue spectacles, defer the attainment of a desirable reformation by ridiculously caricaturing whatever is undesirable in the reformation. The latest fashion of expanding the lower portion of the female dress with a sort of wire hen-coop, and thus making their figures (like Greek epigrams) as broad as they are long, has undoubtedly aided towards that reformation in female attire which we yet hope to see effected. The natural waist appears, by contrast, sufficiently taper without further crushing by that female vice yclept stays. It is no longer needful that they should study (as Terence says of the Roman women)

"Demissis humeris esse, vincto pectore, ut graciles sient."

It is only when the natural "line of beauty" of the female is preserved that health can be expected. It is only from a healthy mother that healthy offspring can arise. We therefore willingly acknowledge whatever tends to the attainment of this desirable object, though condemning as injurious to both health and comfort the extremes of a fashion which has been hailed with cheers by the milliners—cheers of Hoop! hoop!! hoop!!! array!

THREE "fashionably dressed young men" were recently convicted at the Chelmsford Assizes, and received a month's imprisonment. They were let off thus easily on the somewhat novel grounds, that the offence committed had been a practical joke. What their deserts were may be judged from the story. They were drinking with a companion, whom they freely plied with wine. When he became helplessly intoxicated, they "practised the most degrading indignities on his person, and eventually covered nearly the whole of his body with red ochre, making a mark across his throat as though it had been cut." In this state they wheeled him home with his head hanging between the handles of the barrow. He subsequently died from congestion of the brain and lungs. It would be difficult to suggest any process more likely to lead to such a consummation than the jolting a drunken man, thus painted, over the stones of a street, in the night air, and with his head hanging down. None of the facts were denied; none of the witnesses cross-examined. The three youths who did this gallant deed were allowed to stand on the floor of the court, instead of in the dock, during the trial; and finally received the merciful sentence above mentioned. It does not appear that the medical man who attended the victim of this outrage was called to give evidence. Probably this omission and the trial and the sentence were all considered part of the same highly practical joke.

PLUTARCH tells us, in a matter-of-fact sort of way, that when Cato the Younger led his army into Egypt, he took in his train some of the people called Psylli to charm away the ferocity of the snakes and cure their bites. Unfortunately their secret (as well as that of the Ophiogenes, who cured by touching the wound) has been lost. In its place the police-commissioner of Bombay has been lately compelled to resort to the only kind of charm which in no age of the world ever yet lost its potency. He reports that more deaths are occasioned by snake-bites than by tigers, and the local government have adopted his suggestion to offer rewards for the destruction of the reptiles. It results that three hundred a day are now being killed, and the hunters "shuffle off the mortal coil" at the inspector's door, and receive their eight annas for every ordinary snake and twelve for every cobra. The bulk of those hitherto destroyed has consisted of the foorsa, or whip-snake, the most ugly and venomous of the whole species. Of this snake the civil surgeon of Balnagherry reports (*Bombay Courier*) that "he knows no remedy for its poison, ammonia being of no avail, as in the bite of other snakes. It appears that the poison does not act on the nervous system, like that of the cobra, but on the blood alone."

News Items, Medical Facts, &c.

KING'S COLLEGE HOSPITAL.—Income of past year, £5587; expenditure, £7858. The number of patients exceeded that of last year by 2005.

SMALL-POX IN ST. GEORGE'S, HANOVER-SQUARE.—Mr. Jay, vaccinator of this parish, states that there are 20,000 persons in his district, and that there has not been a single fatal case of small-pox for more than a year and a half.

SEAMEN'S HOSPITAL SOCIETY.—During the past year 1851 patients had been admitted; the out-patients were 1658. The annual income is about £4000.

EXTRAORDINARY CASE.—Dr. Charles Sumner, of Rochester, communicates the following particulars of a case which came under his practice to the *Daily Union* of that city:—"The subject was a young lady, nineteen years of age, of nervous temperament, very healthy, and the daughter of a respectable farmer in Butternuts, Otsego County, New York. She first came to my office on the 28th of April, 1853, to have a needle extracted from her left arm, which she said 'got in accidentally as she was moving a bundle of carpeting.' This, a medium-sized sewing-needle, was soon found and extracted from the interior side of the forearm, about midway between the wrist and the elbow. In less than a week she called again, saying she had another needle in her arm. I examined, and found deep in the bend of the arm a hard substance, which proved to be a needle similar to the first, and accounted for in a similar manner. One week after this six needles were found deep in the flesh, about three inches from the elbow. On the 29th of May, fourteen were taken out, higher and more on the posterior side of the arm. On the 30th, seventeen were taken from the arm and shoulders. Some of these were superficial, lying just under the skin, but most of them lay deep in the flesh, and a number entirely under the biceps muscle. One of large size lay with two-thirds of its length imbedded in the brachial artery. One large darning-needle was found lying directly on the bone at the intersection of the deltoid muscle; this caused some inflammation and suppuration, which led to its detection. On the 4th of June, twelve were removed from the left arm, two from the wrist, eleven from the left and one from the right breast. The whole number extracted during the month of June was eighty-seven; September, ten; October, twenty-eight, mostly from the left breast and left side of the abdomen. About the last of November, 1853, she was attacked with violent spasms; these continued about three weeks, and subsequently a large number of needles were found in all parts of her left side, from the shoulder to the knee. When apparently asleep she would converse with her mother, and tell her where the needles might be found; but when awake she could seldom be induced to speak of them. Also, when in this sleeping or somnambulic state she was entirely unconscious of pain. Whilst cutting through deep muscle, or in the most sensitive parts, we never could perceive a motion indicative of feeling (a number were extracted in this sleeping state); on the contrary, when awake she experienced acute pain, even from the least incision. From January, 1854, no needles were found until the middle of the following summer, when she resorted to pins, cutting off the heads and thrusting them into the flesh. Subsequently she used hair-pins, either straightened and put in whole, or the broken halves. These were found deep in the large muscles of the thigh. Several pieces of wire and parts of the largest size of knitting-needles, nearly five inches in length, were found lying directly on the bone of the thigh on the anterior side. The whole number extracted was—of sewing-needles, 297, and these were of all sizes; pins, 67; darning-needles, 2; hair-pins, 5; knitting-needles and wire, each 5;—total 383. Almost every means has been resorted to to find the reason for so strange a fancy; but nothing has yet developed it. She is firm in her denial of knowing when, how, or why she did it; simply saying, 'it must be I that do it, for I know no one else does.' She is perfectly sane on every other subject." A similar case occurred about twenty years ago at Farringdon in Berkshire.

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AND CORONER FOR THE COUNTY OF MIDDLESEX.

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ON THE
THEORY AND PRACTICE
OF
OBSTETRICS.

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LECTURE XLVI.

THE CÆSARIAN SECTION.

GENTLEMEN,—The Induction of Premature Labour, Turning, and the Use of the Forceps, are the great operations of what may be termed Conservative Midwifery. There remain to be considered two capital operations, never to be resorted to save in the last necessity—namely, the Cæsarian Section or Hysterotomy, and Craniotomy. In the one the mother is almost surely, in the other the child is certainly, sacrificed. Premature Labour, Turning, and the Forceps are in distinct opposition to Embryotomy and Hysterotomy, and the tendency of all obstetric improvements has been to substitute the conservative for the destructive operations, and to circumscribe more and more the ground which the latter occupy. The Cæsarian section was probably suggested by cases in which gravid women had the mature fœtus forced through the uterus and abdominal walls by accidents, such as falls, or the goring of bulls; or by those rare instances in which, in cases of impassable deformity of the pelvis, the uterus and abdominal parietes have been ruptured by the force of the pains, and the child extruded. The operation is of very ancient date, like most of the capital operations performed on the human body. Esculapius himself, and a number of other ancient and middle-age celebrities are said to have entered the world in this manner. Art does not appear to have diminished the dangers or the mortality of the operation. With one or two exceptions it is, and probably will ever remain, the most formidable operation which can be performed upon the living body.

Dr. Fleetwood Churchill has carefully collected the statistics of abdominal hysterotomy. He collected from foreign authorities the particulars of 371 cases in which the operation was performed. Of these, 217 mothers are reported to have recovered, and 154 to have died, the deaths being 1 in 2⅜. Some of these cases are, however, so old, as to be traditional rather than historic; but the records of 321 operations, which have occurred since the year 1750, show that only 149 mothers recovered, to 172 deaths. Kayser collected 339 cases, in which a fatal result occurred to the mother in 210 cases, 129 mothers being saved. Dr. West has noted 409 authentic cases: in 251 the mother died, and the recoveries were 158. The largest statistic of this operation is that of Figueiria, who gives 790 cases, in which the deaths were 424, leaving 366 recoveries. Many of the cases are of course repeated in these several collections, but they give, no doubt, a tolerably correct account of the mortality of the operation. In Great Britain, the operation has been considerably more fatal than on the Continent, the difference probably arising from the fact, that here the operation is commonly resorted to only after labour has continued for some time, and after other means of delivery have failed, while abroad, the operation has been performed on healthy women, the subjects of deformity, at the commencement of labour. Dr. Merriman collected the results of 26 cases occurring in this country; of these only 2 mothers were saved, and 24 lost. Dr. Churchill has analysed 63 British and American cases, out of which 18 mothers recovered to 45 deaths. In the great capitals, London, Paris, and Vienna, the mortality is far greater than in other places, and with the single exception of Dr. Oldham's case, where the patient suffered from carcinoma uteri, and died a considerable time after the operation, I believe abdominal hysterotomy has never been performed successfully in this metropolis. Within the last few years it has been performed in London under every circumstance which could be devised to procure a favourable result, five times, with a fatal result in four cases. Dr. Oldham's case was probably an exemplification of the law, that the abdominal and pelvic organs while in a state of disease bear operations well. The most favourable of these results are sufficiently discouraging, when viewed in a tabular form. The matter is still more tragic when we come to the individual case, and have to estimate the chances of recovery from such a formidable operation. It must be borne in mind that the known statistics of the Cæsarian section are sure to be more favourable than the real results. Successful cases are certain to be blazoned abroad, and those which are unsuccessful mentioned as little as possible. Kayser observes that the recorded mortality from this operation in lying-in hospitals, where all the cases are reported, is considerably greater than the recorded mortality in private cases, where suppressions are possible. The hospital mortality reaches to 79 per cent. Dr. West places the mortality in this country, at the lowest estimate, at 83·6 per cent.; but even this is probably lower than the real mortality, could every case be collected. Of the five operations performed in London within the last few years, one of the fatal cases has never, as far as I am aware, been reported.

Dr. West has made a very careful analysis of the cause of death and the date of its occurrence in 147 cases of death from the Cæsarian section. His table shows that death is distributed between shock, hæmorrhage, and inflammation. 55 cases died of inflammation between the 2nd and 20th day, and 1 after that time. The number of deaths from shock to the nervous system was 33, the period of death varying from 1 hour to 6 days after the operation. 14 cases died of hæmorrhage, between the time of the operation and the 6th day. The deaths in the remaining 44 cases took place from the combined results of hæmorrhage, shock, and inflammation, or from causes independent of the operation itself. The fatal result takes place with great rapidity in the majority of cases, as shown by the fact, that out of the 147 cases tabulated by Dr. West, death occurred in 108, within 96 hours after the operation. Dr. West summed up the peculiar dangers of the operation under four heads:—1. Hæmorrhage, not only from the wound, but from the placental site. 2. The shock to the nervous system from the violent interference with labour, and the injury inflicted on the uterus. 3. The exposure and incision of the healthy peritoneum. 4. The infliction of an extensive wound upon the uterus at a time when the processes of Nature are prepared, not to carry on reparation, but to effect the degradation, disintegration, and absorption of the uterine tissue. Attention has been specially directed to the state of the uterine wound after the operation, by Dr. West. In many cases no attempt at repair or the formation of new tissue takes place; in others, actual sloughing and loss of substance occurs, the wound gaping widely, when death has occurred many days after the operation.

The Cæsarian section has been resorted to for the safety of the child more frequently than for that of the mother, but the statistics of the operation demonstrate beyond question that the amount of fœtal is almost equal to that of the maternal mortality. In Dr. Churchill's list of 371 cases, the results to the child are given in 189 cases, 139 being saved, and 50 lost. But we may fairly infer that, of the 182 cases where the result is not given, the child was lost in all or nearly all, which would, omitting twins, increase the fatal mortality to 232. Of the 63 occurring in British practice, 26 children were lost or still-born, and the result is not stated in three cases, making the probable mortality 29. In Dr. Merriman's collection of 26 cases, 11 children were saved and 15 lost. In the 409 cases mentioned by Dr. West, the result to the child is stated in 347 instances. In 227 the child was born alive; in 110 it was still-born. If we add the unrecorded cases to the deaths, the number becomes 172, exclusive of twins.

In a considerable number of cases it is a remarkable fact that the operation has been performed more than once upon the same subject. In 28 women whose cases are collected by Dr. Churchill, the operation was performed 74 times. Some of these cases have been doubted, on account of their antiquity, but within our own generation, Professor Kilian, of Bonn, performed the operation four times on the same woman. Between the years 1826 and 1836 it was also performed four times on a Danish woman. It would appear that in women who survive the first operation, a certain immunity from the dangers of the procedure is acquired. These cases, subtracted from the tables of the successful performance of the operation, or reckoned only once, increase the tabular mortality in women operated on for the first time.

We now approach one of the most momentous questions in obstetrics. Fortunately it is one not often presented to us for solution in practice. What are the circumstances under which abdominal hysterotomy may become justifiable or even necessary? No point has been more keenly debated, and perhaps no point of importance in midwifery is less definitely settled at the present time. It may be stated that the operation is less held in dread upon the Continent than in Great Britain. This is owing in some degree to the more favourable results of the operation, and to the greater value attached to fœtal life, in foreign countries. According to Busch and Moser, the Cæsarian section is the only practical mode of delivery when the diameter of the pelvis is two inches and a quarter or less, and the Cæsarian section is indicated if the diameter is from two and a quarter to under three inches, when the child is alive. Jacquemier is of opinion that hysterotomy is the only justifiable operation when the child is dead, and the pelvis is below two inches in diameter; or when, in the case of a live child, it varies from two inches to two and a half. These are amongst the latest authorities in Germany and France. Velpeau gives the diameter of the pelvis in 62 cases. In 30 of these, the pelvic diameter was from two inches to two and three-quarters, the variation in the remaining 32 being from one inch to two inches. Dr. Simpson truly observes, that in this country the operation would not have been performed in the 30 cases in which the diameter extended from two inches to two inches and three-quarters. These measurements, it should be stated, refer to the antero-posterior diameter, and it seldom happens but that, on one side or the other of the pelvis, the diameter exceeds the diameter from the promontery of the sacrum to the symphisis pubis. In such cases, craniotomy would certainly be attempted in British practice. Dr. Lee, the most strenuous opponent of the Cæsarian section, does not give any positive admeasurement limiting the operation, but he states that the operation should be reserved for cases in which the pelvic contraction is so great that the os uteri and the presenting part of the child are entirely out of reach. He speaks, however, of a case of Sir Charles Bell's, in which the antero-posterior diameter did not exceed an inch, and when the space on either side did not allow of the performance of craniotomy, in which, in labour at the full term, the Cæsarian section was necessarily performed. Dr. Fleetwood Churchill gives it as his conclusion, after reviewing all the points relating to the subject, that when the antero-posterior diameter of the brim is not more than an inch and a half, there is no resource but the Cæsarian section. Dr. Rigby considers the operation unavoidable when the child cannot be extracted piecemeal through the natural passages, but does not give any positive measurements which would justify the operation. Dr. Meigs teaches that the operation may be imperative in different diameters in different cases; and he considers it impossible to fix a minimum diameter through which a woman may be delivered. He states that if we go to diameters of an inch or an inch and a half, the Cæsarian section is inevitable, but that he should not hesitate in one case to recommend it in a pelvis the diameter of which ranged from two to two and a half inches, when a patient was in imminent danger; while in another, and less pressing case, he would as certainly, with the same diameters, advise craniotomy. Singularly enough, Dr. Meigs relates a case where the diameter was not beyond two inches, in which he delivered by embryotomy on two occasions, but in which the Cæsarian section was afterwards performed twice successfully, and once under the sanction of Dr. Meigs. No alteration had occurred in the state of the pelvis between the dates of the operations for embryotomy and hysterotomy. Dr. Ramsbotham considers the Cæsarian section the only alternative in labour at the full term, when the antero-posterior diameter is one inch and three-eighths, and a space of three inches and a half at the brim laterally, or with an antero-posterior diameter of an inch and a half by three inches. In two of the cases occurring in London within the last few years, the pelvic diameters have been published. In one case the antero-posterior diameter was three inches, but out of this the rami of the pubes projected forwards, with a beak more than an inch in length, and about an inch in breadth. The distance between the tuberosities of the ischia was 1·2, and from the point of the coccyx to the symphisis pubis 2·8 inches. The child was saved. In the other case, the principal deformity was at the brim. The antero-posterior diameter measured two inches. From the sacral promontory to the right pectineal eminence there was also a space of two inches, and from the same point to the left pectineal eminence, two inches and a half. The diameters of the cavity and the outlet were not seriously contracted. The child was dead before the commencement of the operation. It is impossible to give too much credit to the distinguished practitioners concerned in these cases for their candour and skill, but it may be questioned whether in both cases delivery might not have been effected by piecemeal delivery. At this point of the argument, we must inquire what are the smallest diameters through which a child at the full term has passed, either alone or with instrumental assistance. We have seen that Dr. Meigs delivered twice in a case where the antero-posterior diameter did not exceed two inches, and he distinctly states that he should not hesitate to undertake delivery in any pelvis of two inches in the antero-posterior diameter. I believe Dr. Lee entirely endorses this opinion, even if he does not go somewhat beyond it. In the celebrated case of Eliza Sherwood, in whom delivery was effected by Dr. Osborn, the antero-posterior diameter was only three-quarters of an inch, but there was a space on the right side an inch and three-quarters broad and three inches long. In the case related by Dr. Simpson, a fœtus, eighteen inches and a half long, passed through a cordate pelvis, so contracted at the outlet as to measure three inches from the coccyx to the symphisis, but only half an inch from the tuberosity of one ischium to the other. In a succeeding labour, hysterotomy was performed with a fatal result to the mother and child. In these and other cases of the passage or extraction of a child through a pelvis affected with high distortion, the child has been dead and in a softened condition, with complete separation or dislocation of the bones of the head. It may be said, then, that the limits for the performance of the Cæsarian section only range between a two-inch diameter of the pelvis from deformity, and its entire occlusion by exostosis. If cases ever occur in which the operation is necessary above two inches, they are instances in which death is threatened or certain, before the lengthened operation of embryotomy could be completed. Much discussion has taken place as to the relative value of the life of the mother or child in cases supposed to call for hysterotomy, particularly when the child has been sacrificed again and again in the same subject. But apart from the fact of the great danger to the child in cases of the Cæsarian section, I think the judgment of Dr. Meigs to be in accordance with the dictates of reason and humanity, when he says that this operation should never be performed upon the living subject, save for the preservation of the mother herself, and that it should be considered essentially as a mother's operation, only to be resorted to when the life of the mother is in greater danger from the continuance of labour, than from the hazardous and almost certainly fatal procedure under consideration. The life of the child may be a great consideration *after* the operation has been decided on, but it should hardly enter into our calculations *before* that time.

When a patient has died suddenly, or in any other way, during labour, or in the latter part of pregnancy, there can be no hesitation about the performance of hysterotomy, where the child is suspected or known to be alive. Under such circumstances, the operation should take place as quickly as possible after the death of the mother. It was probably in such cases that the operation was in the first instance performed. I have elsewhere spoken of the performance of gastrotomy in cases of ruptured uterus, where the child has escaped into the peritoneum, and cannot be delivered *per vias naturales*. This operation is also necessary in some cases of extra-uterine fœtation, when death is threatened from the irritation of the fœtus.

Hysterotomy is not a difficult operation. The temperature of the room should be raised, with a view to the prevention of peritonitis, and chloroform administered, unless some special contra-indication exists. The abdominal incision may be made in the direction of the linea alba, or it may be oblique or horizontal, according as the configuration of the abdomen is altered by deformity. The situation of the placental attachment should be avoided, if this organ be attached anteriorly. This may be learnt by auscultation before the operation is commenced. Great care is required in opening the peritoneum, so as to avoid wounding the intestines. The abdominal incision should be from eight to ten inches in length; and the uterine incision should be of nearly the same length. Some have advised that the liquor amnii should be evacuated before the commencement of the operation. When the amnion is punctured through by the uterine incision, care must be taken to let as little of the fluid as possible enter the peritoneal cavity. It is recommended to be removed carefully with pieces of sponge or a syringe. When this has been evacuated, the fœtus is to be taken out cautiously, as in some cases the uterus has grasped the body or neck of the child at the wound, and rendered its extraction a matter of difficulty. The placenta is to be separated by the hand, and hæmorrhage arrested by mechanical pressure, or the application of cold, the risk of peritoneal inflammation being the only objection to the latter. After the removal of the placenta, and the cessation of hæmorrhage, all blood and fluid are to be carefully removed from the peritoneum, and the edges of the uterine and abdominal incisions brought together and maintained by sutures. The external wound is further to be dressed lightly with strapping and wet lint, and the whole supported by a many-tailed bandage, space being left for the exit of discharge. After the operation, large and continued doses of opium, with nutriment and stimulus in good quantity, appear to offer the best chances of recovery. Throughout, every care should be given to the avoidance of peritoneal irritation as far as possible; the escape of the bowels through the wound; and the suppression of hæmorrhage. Dr. Aitken has recommended that the operation should be performed under water, with a view to defend the peritoneum and other structures from contact with the external air, but I am not aware that his suggestion has been carried out in practice. As already mentioned, art and the most careful modes of operating, can do little towards insuring the safety of the patient under hysterotomy. There is one point worthy of consideration—namely, that patients operated upon in the country have done better than those operated on in great cities; and it is probable that a good air does more than the most skilful surgery in such cases.

LECTURE XLVII.

EMBRYOTOMY.

Gentlemen,—This is the most positive of all the operations of midwifery. The only other procedure with which it bears comparison, is the induction of premature labour before the viability of the child has been reached. In the induction of Premature Labour after the seventh month; in Turning; in the use of the Forceps, and even in the Cæsarian section, a chance of safety is afforded to both mother and child; but in Embryotomy, the child, if alive before the commencement of the operation, is inevitably sacrificed.

The operation is considered necessary in certain cases of deformed pelvis, obstruction from tumours, &c., when the induction of premature labour has been neglected or omitted; in cases of arm presentations, hydrocephalus, convulsions, hæmorrhage, exhaustion, &c., when the preservation of the mother imperatively calls for delivery, and when the child cannot be extracted by the long or short forceps, or by turning. Under these circumstances, there is no question amongst the great majority of British accoucheurs as to the propriety and fitness of the performance of craniotomy. As Denman justly observes, in deciding in favour of this operation, we are only following the dictates of Nature, who, in difficult labours, commonly sacrifices the child before the mother is destroyed. It is equally a canon in obstetrics, that the operation should never be performed except after consultation, and in the face of the most urgent necessity; and it may be said that apart from all question of the Cæsarian section, there is a general belief on the Continent, and in America, that the operation has always been performed too frequently by obstetricians in this country.

It is of the greatest importance, with reference to the most common condition of instrumental labour—namely, slight or excessive deformity of the pelvis, that the limits should be decided, as far as possible, within which the induction of premature labour by the forceps may, or craniotomy should be, performed. As regards the induction of premature labour, it may be said that it applies to all cases of pelvic deformity, it being the province of art to decide at what time this operation should be performed in each particular case, and whether it should be resorted to before or after the viability of the child. There is, probably, no case of deformity or exostosis, where menstruation and fecundation can occur, so profound but that the detachment and expulsion of the ovum might be procured within the first two or three months after impregnation, by the uterine sound, or an elastic tube and douche. When this has not been accomplished, and pregnancy has gone on to the full term, we have to consider the alternative operations of the forceps, turning, embryotomy, or the Cæsarian section. The use of the forceps is generally inadmissible in cases where the distortion exists to such an extent that the antero-posterior diameter is below 3¼ inches. When the application of the long or short forceps is impossible, turning may be practicable between the limits of 3¼ inches and 2½ inches. The Cæsarian section comes into the field in cases of high distortion, where the antero-posterior diameter is 1½ or 2 inches or less. Between the point at which turning becomes impracticable, and at which there is no resource but the Cæsarian section, lies the domain of craniotomy. It is the proper resource in cases where the antero-posterior diameter is from 2½ inches to 1½ to 2 inches. In cases where some other condition than mechanical disproportion comes into operation, as in cases requiring immediate delivery, and complicated with hæmorrhage, convulsions, &c., craniotomy may be sometimes necessary, but it ought in every case, as far as possible, to be superseded by the forceps or turning where these operations are practicable.

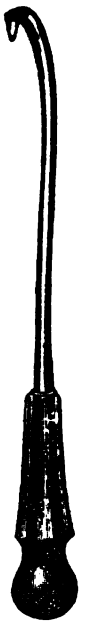
The statistics relating to embryotomy are of great importance as throwing light on the proportion in which the operation is fatal to the mother. Dr. Fleetwood Churchill has collected 342,495 cases of labour in German practice, in which embryotomy was performed 243 times, or in 1 in every 1409½ cases. In 129,331 cases in British practice, embryotomy was resorted to 378 times, or one in every 342½ cases. In France and Italy, out of 38,908 cases, this operation was performed 69 times, or in 1 in every 563¾ cases. Thus the proportionate frequency of the operation stands as 1 in every 342 cases in this country, 1 in every 563¾ in France and Italy, and only 1 in 1409½ in Germany. In 371 cases in which the result to the mother is stated, deaths ensued in 69, a fatality equal to 1 in 5⅓ of all the cases. Thus craniotomy, though a comparatively easy operation, is far more fatal to the mother than the forceps or turning. In this country 1 in every 20¾ amongst the mothers is lost by the use of the forceps; and in France and Germany, 1 in 14¾. In cases of turning, the loss is 1 in every 14½ cases, including deaths from the complications in which turning is required, such as convulsions, accidental hæmorrhage, placenta prævia, &c. Some further light is thrown upon the comparative mortality of the several midwifery operations by a comparison of the results of artificial delivery in this country and on the Continent. Dr. Simpson gives the comparison of the maternal mortality after artificial delivery in the great hospitals of Vienna and Dublin as follows:—Under Boer, 1 in 55 was delivered artificially—that is, by the forceps, lever, version, or craniotomy. Under Arneth, artificial delivery was resorted to in 1 out of every 69 cases. In Dublin, under Dr. Collins, 1 out of every 86 women was delivered artificially; and under Dr. Johnson, as reported by Drs. Hardy and M'Clintock, 1 in 52. Of the cases above mentioned, Boer lost 1 out of every 17 mothers; Arneth, 1 out of every 9; Dr. Johnson, 1 out of every 5; and Dr. Collins, 1 out of every 4. These figures would give Dr. Collins a mortality more than four times greater than that of Boer, and twice that of Arneth. Dr. Collins, it may be observed, resorted to artificial delivery less frequently than the Vienna obstetricians; but Dr. Johnson's proportion of artificial deliveries was greater than either that of Boer or Arneth. On the Continent, the forceps is more frequently used than in this country. The French use this instrument in 1 out of 140 cases; the Germans in 1 out of every 159; while in Great Britain it is only used in 1 out of every 342⅒ cases. The same may be said of turning. The French turn in 1 out of every 89½ cases; the Germans in 1 out of every 97½; while in Great Britain we turn only in one out of every 238 cases. The maternal mortality from forceps cases in this country is 1 in 20¾; in France and Germany, 1 in 14¾. The gross mortality to the mother from turning is 1 in every 14½ cases. Thus on the Continent, a considerable gain of maternal life is obtained by resorting to turning and the forceps, instead of craniotomy. When the child is dead, turning is performed, or the forceps used, in preference to craniotomy; and turning is resorted to in cases of dystosia, when the head of the child is above the brim, and when the pelvis admits of delivery without diminution of the head. Artificial delivery is also resorted to at an earlier period on the Continent and in America, when it is considered necessary, than in this country, and Dr. Simpson has shown that no other circumstance exerts so prejudicial an effect, as the prolonged duration of labour. While it must be allowed that in the matter of artificial deliveries more mothers are lost in this country than on the Continent, the gross maternal mortality in this country is more favourable than in foreign countries. It is not only as regards the mother that our own statistics of artificial delivery are unfavourable. Out of every 100 cases, Boivin lost 28 children; Arneth, 34; Lachapelle, 36; Boer, about 47; Dr. Johnson, 76; and Dr. Collins, 77. If we can rely on these statistics, which there is little reason to doubt, the fœtal mortality in this country in artificial deliveries is nearly double that which obtains upon the Continent. The result of these statistics is to show very clearly that craniotomy is an operation to be avoided upon every possible occasion, and that in no case should it be undertaken, whether the child be alive or dead, when turning or the short or long forceps can be substituted in its stead. It is only less horrible than the only alternative which remains to us, when it is absolutely unavoidable—namely, the Cæsarian section, and in the following proportions:—Embryotomy is fatal to the mother in about 20 per cent., while the Cæsarian section destroys from 60 to 70 per cent. on the Continent, and between 80 and 90 per cent. of the mothers in cases operated on in this country.

When the deformity is not excessive, the operation is a comparatively easy one. It is only in cases of high distortion, where what is called piecemeal extraction is required, that great difficulties are met with in its performance. The instruments used consist of the Perforator, the Crotchet, the Embryotomy Forceps, the Cephalotribe, and several kinds of blunt and cutting Hooks.

Various forms of perforators are used. The most common is the scissors-like instrument of Smellie, modified to some extent by later obstetricians. It consists of two blades with shoulder-stops, and cutting edges between the stops and the points. In using the instrument, it is inserted as far as the stops, and the handles are then separated by the fingers. The most modern and perfect instrument is a modification of Naëgelé's perforator, which is used by bringing the handles together, and gives the operator considerably more power than the instrument of Smellie. The common crotchet is a modification of the earliest modern instrument of the kind, devised by Mesnard. It is simply a blade, having the forceps curve, with a short hook at the extremity, having a broad cutting edge of moderate sharpness, for insertion into the inner or outer surfaces of the bones of the fœtal cranium. Its construction was probably suggested by the use of the hooked finger and the finger-nail. Various forms of craniotomy forceps are used, some of them with sharp teeth, and others with serrated blades, the latter being in most cases the preferable instruments. In some, the scissors-joint, and in others the forceps-lock, is used. The cutting-hook, invented by Dr. Ramsbotham, for cases requiring decollation or the amputation of limbs, and a blunt hook, complete the embryotomy instruments in general use in this country.

In the Cephalotribe, a mechanism altogether different is relied upon. Immense strength in the blades, and great power of compression is obtained, and the fœtal head, including its base, is crushed by the grasp of the instrument. The cephalotribe of Baudelocque is two feet in length, and weighs about four pounds, being altogether a most repulsive-looking instrument. The crushing-blades are brought together by a screw movement. A more modern French cephalotribe, consisting of an immensely strong pair of forceps, having narrow blades, without fenestra, was exhibited at the Crystal Palace of 1851. It was several pounds in weight, and its use must have required great strength on the part of the operator. Recently, considerable attention has been given to the construction of cephalotribes of as light a weight as is consistent with the requisite strength, and the racket and pinion has been substituted for the screw in approximating the handles. The latest instrument I have seen measures 18 inches in length; its blades are 1¾ inches in width, and it weighs three pounds. The lock of the blades is the same as that of the French forceps. It is used by Paul Dubois and the leading French obstetricians, in preference to the perforator and crotchet, in cases where the child is dead, or where the pelvis is too contracted to admit of the use of the forceps. The advantages claimed for this instrument are, that it avoids the dangers of the crotchet, and that it is far less fatiguing to the accoucheur than the ordinary mode of extraction. It is not, of course, applicable to cases of high pelvic distortion. It is impossible to examine the instruments used in embryotomy, and to deal with cases requiring its performance, without feeling that instrumentation has by no means reached perfection in this department of the obstetric art. Ultimately craniotomy will in all probability be restricted, almost, if not entirely, in the case of living children, to cases requiring piecemeal extraction. We require instruments for this purpose better than any which have hitherto been constructed, and it seems likely that modifications of the lithotrity and bone-cutting instruments used in surgery may be found very useful in breaking up and extracting the fœtal head.

FIG. 162.



Crotchet.

In using the perforator, the first two fingers of the left hand are introduced into the vagina so as to reach the parts of the head selected for puncture. Along these fingers, the instrument is passed as on a director, and, with the right hand, forced gently but firmly, by a semi-rotatory movement, into the head as far as the shoulder-stops. The blades are then opened widely, and the part of the head into which they are introduced is thus

FIG. 169.

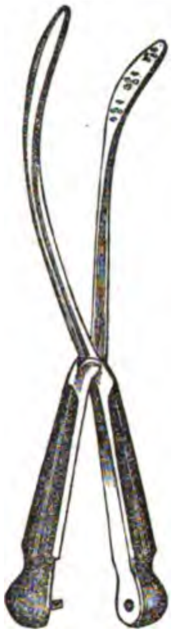
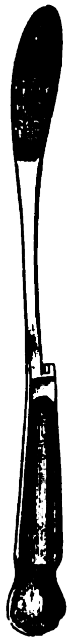
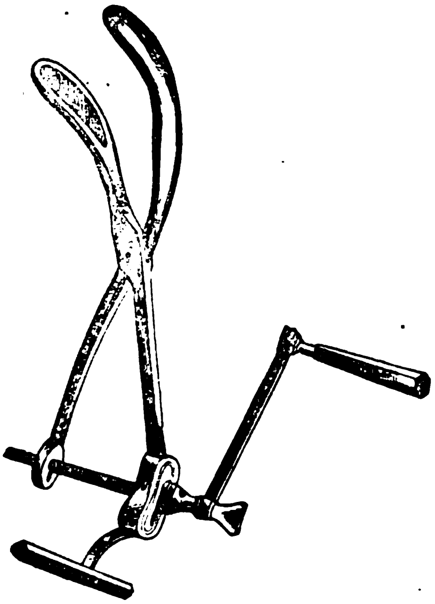


FIG. 170.



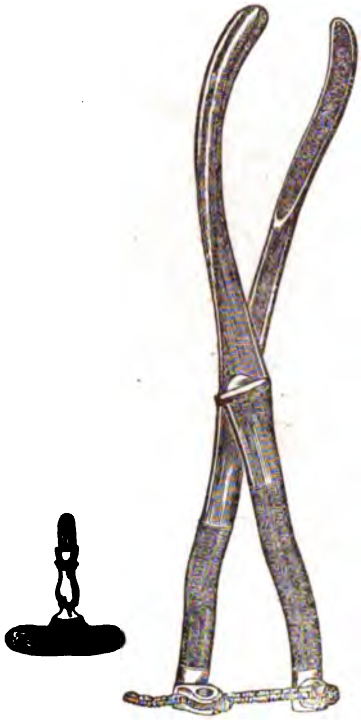
Craniotomy forceps.

FIG. 171.



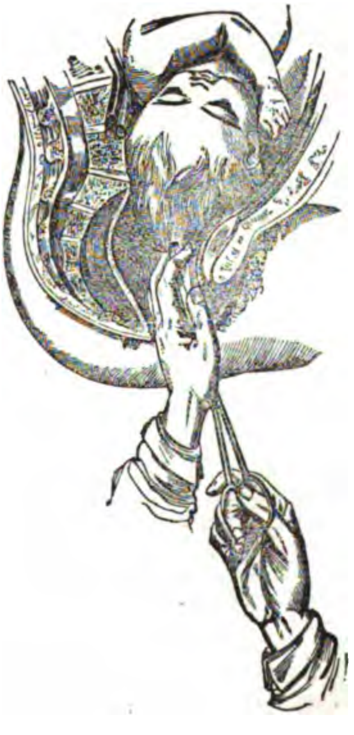
Baudelocque's cephalotribe.

FIG. 172.



Modern cephalotribe.

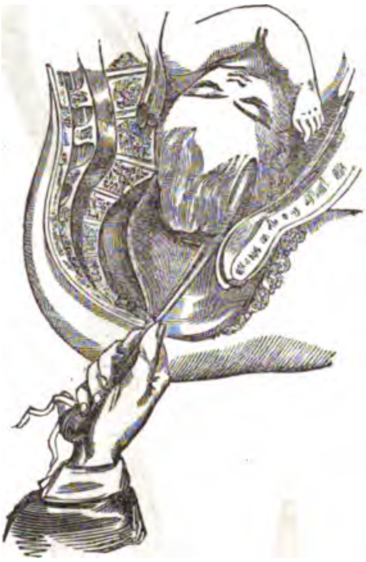
FIG. 173.



Perforation of the head.

divided. The instrument is now withdrawn a little, and reinserted in a direction at right angles to the first incision, when the blades are dilated as before. This proceeding leaves a crucial opening in the fœtal cranium. The point of the head at which the perforation should be made has been a subject of considerable dispute. Some advocate perforation at the sutures or fontanelles; but it is an objection to this procedure, that when the bones become compressed, the opening is obliterated, and the discharge of cerebral matter interfered with. The best point for perforation is the middle or posterior portion of the parietal bone, because an opening in this situation enables the operator to apply extractive force with the head in the most natural and advantageous position for its passage through the pelvis. When the crucial incision has been made, the perforator is passed into the opening and moved about in various directions, so as to break up the brain. If the child is alive, the perforator should, if possible, be made to pass into the foramen magnum in order to destroy the medulla oblongata; otherwise the child may be born living, notwithstanding the processes of perforation and decerebration. Sometimes the crotchet is perforated for breaking up the brain. Nothing but pithing the medulla destroys the child, which before birth possesses, to a certain extent, the low and tenacious vitality of the amphibia. After these steps of the operation have been completed, it is best, in all cases where immediate delivery is not a matter of great urgency, to wait for some time before proceeding to extraction. The bulk of the fœtus is diminished by loss of blood, and as the brain escapes the spastic influence of the pains moulds the bones of the cranium into a smaller and more convenient shape. Decomposition also sets in with great rapidity, and soon softens the whole mass.

FIG. 174.

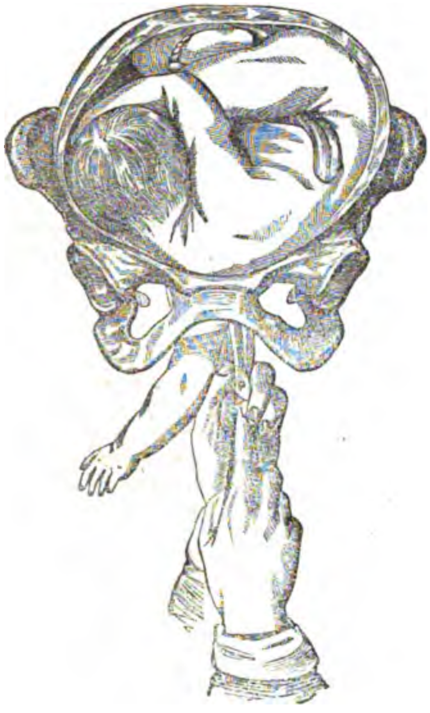


Employment of craniotomy forceps.

For extracting the child, especially when the fœtus is dead before the commencement of the operation, it is sometimes sufficient to pass the finger into the opening made by the perforator, and in this way extract the child. More frequently, the crotchet or craniotomy forceps are required; and some cases tax the strength, ingenuity, and patience of the accoucheur to the very utmost.

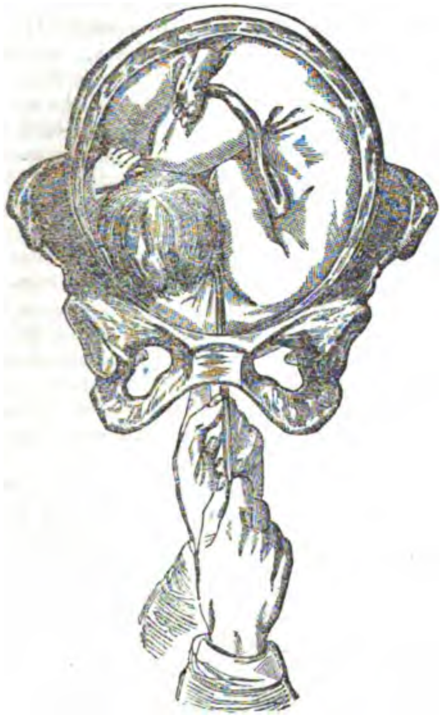
Considerable difference of opinion has prevailed at times as to the mode of using the crotchet. Some have fixed the instrument on the outside, others on the inside, of the cranial cavity; and occasionally, two crotchets, one applied externally and the other internally, have been employed. At the present day, obstetricians are pretty well agreed as to the propriety of passing the crotchet through the opening made by the perforator, and fixing it upon the cranial bones on their inner surface. It is still a disputed question whether the crotchet should be fixed upon the anterior or posterior part of the head. Supposing the head to be in either of the occipito-anterior positions, in applying the crotchet to the anterior part of the head, we can pass the fingers of the left hand up over the frontal bone, to the part opposite to that upon which the crotchet is fixed, and in this way steady the instrument, assist its extractive force, and guard against the injury of the soft part in case of the slipping of the instrument. But these advantages are more than counterbalanced by the circumstance that we in this way bring down the anterior part of the head, and force the cranium through the pelvis in its largest and most unfavourable diameter. In fixing the crotchet on the thickest portions of the occipital, parietal, or temporal bones, we, on the contrary, bring the head down with its smallest diameter opposed to the pelvic straits, and in this way expedite delivery, and avoid the danger of bruising and lacerating the soft parts of the mother. Cases may occur in which we have little choice, and in which the head must be extracted or broken down as it lies; but when we can select any part of the head, or are able to alter its position, undoubtedly the greatest chances of safety are given by following as closely as possible the natural order of labour, and bringing the posterior and superior angle of one of the occipital bones first through the pelvis. Sometimes the craniotomy forceps, the blunt hook, or even the ordinary forceps, are used, after the collapse of the head, to effect delivery: and in the worst cases the craniotomy forceps is more serviceable and less dangerous than the crotchet. With any of these instruments the greatest care is necessary in guarding the soft parts of the mother from injury, and avoiding lacerations of the vagina and perinæum by the instrument or by spiculæ of bone. Great force is sometimes required with the crotchet and craniotomy forceps, and the completion of delivery may occupy many hours. As far as possible, it is a rule in craniotomy to save the scalp and integument, so as to cover and guard the bones from injuring the mother.

FIG. 175.



Embryulcia.

FIG. 176.



Decapitation.

In embryulcia, when some other parts than the head present, the abdomen and thorax require to be perforated, and the child extracted as in breech cases. Occasionally, it is necessary to effect decapitation. In some cases, when craniotomy has been performed, and the head extracted, it is difficult or impossible to deliver the trunk, and the thorax and abdomen require evisceration. Dr. Oldham has for such cases invented a vertebral hook, considerably longer in the shaft than the ordinary blunt hook, and calculated to be of very great service.

In cases of high distortion, such, for instance, as those described by Dr. Osborn and Dr. Meigs, extraction by any instruments would be impossible without the assistance afforded by the decomposition of the fœtus. These cases sometimes spread over two or three days, in which time the soft parts of the fœtus are reduced almost to a diffluent pulp, and the loose bones are contained within the skin somewhat as in a bladder. The fœtor in these cases is intense, and the uterus may be distended with gases resulting from decomposition; but less mischief arises from there sources, or from the delay and pressure, when the cranium has been decerebrated, than from forcible attempts at extraction. It is very common with those obstetricians who have most distinguished themselves in such cases to express a regret, at the termination of their cases, that they did not wait more patiently, and trust more to the aid afforded by putrefaction. It is almost incredible how small an aperture a fœtus in a state of decomposition will pass through. Dr. Simpson, in a case occurring at Cupar, was able to draw a child 18½ inches long, in a state of considerable decomposition, through an opening in a piece of iron only 2⅝ inches long by ⅞ of an inch wide. When we have to deal with a dead fœtus, the circumstances under which craniotomy can be performed in high distortion, are the most favourable which can exist; but when the fœtus is destroyed early in labour, a few hours will do much towards promoting decomposition, while if extraction can be delayed twenty-four or thirty-six hours, the fœtus becomes greatly disorganized. Death, the admission of air, and the high temperature kept up by the uterus and liquor amnii, afford very favourable conditions for putrefaction in the comparatively soft structures of the fœtus. It were to be wished that art could supply some means of making fœtal decomposition still more rapid in such cases. But even in cases of decomposed fœtus, the cranium has, in the worst cases, to be picked out bit by bit and bone by bone, or the large bones have to be broken up. In his case of pelvis of two inches in the antero-posterior diameter, Dr. Meigs relates that he was several hours getting away as much osseous matter as would go to make up a parietal bone.

Considerable difference of epinion has existed as to the time at which craniotomy should be performed. Dr. Collins has especially laid it down, with almost the distinctness and positiveness of a law, that in difficult labour the child is always dead before the mother is placed in such a position of danger as to require immediate delivery. Drs. Hardy and McClintock have followed Dr. Collins to a considerable extent in this particular. The wisdom of the rule thus sought to be enforced by these eminent accoucheurs may, however, be questioned. When there is distinct evidence that the child cannot be born alive—when turning is impracticable, and when delivery by the forceps has been vainly attempted, there is no object to be gained by delay. There is little difference, in a moral point of view, between standing by while the fœtus dies, and the actual performance of craniotomy; but it may make every difference to the chances of safety to the mother to have a dead fœtus upon whom perforation has been performed, and in whom the processes of putrefaction and softening are going on, and with the solid head of a living child, pressing under the force of uterine action, upon the soft contents of the pelvis. No doubt it must always be a satisfaction to know, when the certainty arises that craniotomy is inevitable, that the child is already dead; but this event cannot be waited for except with risk to the mother. It would probably be better to be without auscultation altogether, in such cases, than to make it the ally of timidity and procrastination. In every case where the least promise of such a solution of the difficulty exists, turning or the application of the long or short forceps should be attempted; but the moment we are positively certain that the head cannot pass naturally or artificially without perforation, but that with perforation it may pass, we should prepare for craniotomy, with little reference to the question of whether the mother can bear an hour or two of additional suffering, or whether the child may linger a few hours more before it expires from compression.

LECTURE XLVIII.

CONCLUSION.

Gentlemen,—Having considered the principal subjects which relate to the Anatomy, Physiology, and Pathology of the Reproductive Processes, I propose to devote the present Lecture—the last of the course—to the causes of the mortality which attends parturition and the puerperal period, and to the modes by which the amount of this mortality may be diminished. The latter forms the end and aim of all improvements in the Theory and Practice of this department of Medicine.

The seventeenth annual report of the Registrar-general, of births, deaths, and marriages in England, published during the present year, contains a letter on the causes of death in 1854, by Dr. Farr, the eminent vital statistician, in which the mortality of women in child-bearing is very ably handled. From this document it appears that during the eight years from 1847 to 1854, inclusive, to every 10,000 children born alive in England and Wales, 54 mothers died. This makes a maternal mortality of nearly 1 in every 189 deliveries. In the seven years no less than 3232 mothers died, on the average, annually. It is a gratifying fact, that in the seven years the mortality decreased from 60 in 10,000, in 1847, and 61 in 1848, to 47 in 10,000 in 1854. Since 1848 the declension has been progressive, the numbers per 10,000 being 58, 55, 53, 52, 50, and 47. Still, in the most favourable year, 1854, 3009 died either during child-birth, or in the puerperal period—an enormous fatality to attend the performance of a natural function. The most minute particulars in his report relate to the year 1852. In that year there occurred in this country 618,902 child-bearings, and the number of women who perished was 3247. We may at the present time consider **3000** per annum as the number of women destined to perish from child-birth in England and Wales. This mortality, it must be remembered, refers to women in the prime of life, who, up to the time of labour, enjoy excellent health. From the numbers given in the seven years, out of every 100,000 child-bearings, 530 women died from causes incident to labour. In the year 1848, 61 mothers died to every 10,000 children born alive. For the year 1852, we have the exact number of child-bearings given. In this year, 617,902 women were delivered. Of these, 3247 died in child-birth, or in the puerperal period. The estimated number of still-born children was 22,122. The deaths from child-bearing bear a considerable proportion to the entire mortality during the child-bearing period—viz., from the ages of 15 to 55. Amongst women of the age 15—25, the annual mortality per cent. from all causes was ·861, of which the $\frac{1}{21}$st part, or ·41, is by child-birth. At the ages 25—35, and 35—45, the annual mortality per cent. from all causes was 1·090, and 1·296, of which ·098 resulted from childbirth. Thus between the ages 25—35, 1 in every 11 deaths from all causes is from child-birth. At the age 35—45, 1 out of every 13 deaths is from child-birth; and in the case of women of the age 15—25, the mortality is increased by child-birth in the ratio of 5 to 9. It is difficult to put the mortality from parturition in a stronger light than this. In the English schedule there is as yet no column for the ages of the parents of the children registered. In the Swedish returns this defect does not exist, and Dr. Farr has determined the deaths from child-birth, at the respective ages as they occur in this country, by applying the data drawn from the Swedish tables to our own. The results show that a mathematical law governs the calamitous deaths of child-birth. Between the ages of 15 and 25, the maternal mortality, as already stated, amounts to 668 in every 100,000, in child-birth. In the second child-bearing decenniad, from 25 to 35, the mortality from parturition is only 425 in 100,000 labours. It rises to 633 per 100,000, between the ages of 35 and 45, and to 883 in the last decenniad, namely, from 45 to 55. It is in the first decenniad that the largest proportion of first births occur; but more than one-half of the deliveries which take place at all ages, occur between the years 25 and 35. This is, in fact, the great child-bearing epoch, and the age at which parturition is most safely performed. At the age of 15 to 25, one woman out of every sixteen bears a child in the year. At the age of 45 and upwards, the number bearing children is inconsiderable, but from the age of 25 to 35, one woman in every four bears during the year in this country. The most fatal decenniad is the last, between the ages of 45 and 55, when the deaths are more than double the proportion of the deaths occurring in childbirth between 25 and 35. The female population between the ages of 45 and 55 is estimated at 782,010; of these, 7545 are computed to bear children in the year, and a fatal result occurs in 66 cases, or at the rate of ·883 per cent. The comparative mortality in the four decenniads may be represented by the figures, 3, 2, 3, and 4. This increase in the mortality from parturition at the two extremes of the childbearing epoch is in accordance with the results of common observation. All radical defects and deformities in the childbearing organs are tested in first pregnancies, and it is in the first and last periods that rigidities of the soft parts are most marked. Towards the end of the childbearing period, women then becoming pregnant for the first time have their peculiar dangers; while in women who have borne numerous children, and in whom the reproductive organs are worn out, as it were, the results of uterine inertia, and the occurrence of rupture of the uterus, from its imperfect development in later pregnancies, increase the mortality. Other affections, such as fibrous tumours and mollities ossium, also increase in importance as impediments to labour, towards the close of the child-bearing epoch. It may be observed that in all returns relating to obstetrics, the amount of mortality from causes connected with childbearing is rather under than over stated, from the natural repugnance of practitioners to refer to this condition as a cause of death.

If we come to inquire into the special causes of death from parturition, we find Metria or Puerperal Fever to be the monster source of childbirth mortality, when compared with any other single disease or accident attending labour. In the eight years 1847–55, 25,868 mothers died in childbirth; of these, 8154 perished from puerperal fever. More than 1000 women die annually in England from this cause alone. The particulars of this are set forth in the following table:—

Deaths of Women in Childbirth in the Eight Years 1847–54.

YEARS.	Number of Deaths from			Deaths of Mothers to 10,000 Children born alive.
	Metria and other causes.	Metria or Puerperal Fever.	All other Accidents of Childbirth.	
1847	3326	784	2442	60
1848	3445	1365	2080	61
1849	3339	1165	2174	58
1850	3252	1113	2139	55
1851	3290	1009	2281	53
1852	3247	972	2275	52
1853	3060	792	2268	50
1854	3009	954	2055	47
8 Yrs., 1847-54	25868	8154	17714	54

After puerperal fever, hæmorrhage and exhaustion, the operations of midwifery, rupture of the uterus, puerperal mania, and convulsions, are the principal causes of death. Certain diseases quite distinct from parturition, such as small-pox or scarlatina; and visceral inflammations, such as idiopathic peritonitis, cardiac, pulmonic, and cerebral inflammations, are vastly increased in danger by the concurrence of pregnancy or parturition. Statistics yield some interesting and important facts respecting the ages at which metria and the other disorders and accidents of childbirth are fatal in different proportions. These facts are exhibited in the following table:

Comparative Mortality of Women bearing Children at different Ages, from Metria and all other Causes, in the seven years 1848—1854.

Age of Mother.	Deaths by Metria.	Deaths by other Accidents of Childbirth.
15 — 25	2085	2939
25 — 35	3401	6378
35 — 45	1791	5566
45 — 55	86	380
15 — 55	7363	15265

Thus it appears that during the first childbearing decenniad, 15—25, somewhat more than two-fifths of the childbed mortality is from metria or puerperal fever, but under this head all inflammatory disorders of the uterus are probably included. In the second decenniad, 25—35, rather more than one-half of the deaths of women in childbirth are attributable to metria. In the third decenniad, 35—45, rather less than one-fourth of the deaths take place from metria, the proportion being 1791, from fever to 5568 from the other accidents of childbirth. In the limited number of cases occurring in the fifth decenniad, a still smaller proportion of deaths from metria is observed. It results that between the ages 15—35, women are greatly more susceptible of puerperal fever than between the ages 35—55. On the other hand, between the ages 35—45, and 45—55, while the chances of death from puerperal fever are diminished, those of death from the other accidents of childbirth are increased in a still greater proportion.. The great era of puerperal fever is before the age of 35, when it exceeds one-third of the total deaths from childbirth. After the age of 35, the other accidents and disorders of childbirth largely exceed puerperal fever in importance, the proportion in the seven years being 5998 from the ordinary accidents and disorders of childbirth, and only 1877 from metria. I am not aware that the attention of obstetricians has ever before been drawn to these remarkable facts in connexion with death from childbearing. That they have a practical bearing of the first importance, is at once obvious.

We have seen that the great single cause of death amongst childbed women is Metria, or Puerperal Fever. There can scarcely be any hesitation in declaring that this disease ought hereafter to be as absolutely extinguished in this country as the plague of former times. It stands in the same category as typhus, and the rest of the zymotic diseases, which we may reasonably hope are in gradual process of extinction by preventive medicine. This extinction, if possible, cannot but be hastened by the earnest direction of the professional mind to the subject, since it is one which is very much within the control of medical men. As regards cure, or effective treatment, the disease in its various forms is utterly beyond all the known resources of our art; and there is no reason to imagine that we shall ever deal with it effectually, save in the way of prevention. In this point of view, every thing in the history of the disease leads us to the conclusion that its virulence and frequency my be moderated to almost any extent, or that it may even, in process of time, be entirely annihilated.

And, first, as regards the Sporadic origin of this disorder. The state of the lying-in woman is one in which, as we have seen again and again in the present Lectures, the blood and secretions are necessarily vitiated to a certain extent. Puerperal fever may almost be produced at will, by crowding a number of lying-in women together in the wards of a lying-in hospital. It is generated in individual cases, by inattention to the lochial and other secretions, the absence or neglect of ventilation, in the small rooms of the poor, where the lying-in chamber is often the abode of the rest of the family, and is used for all domestic purposes. In fact, where there is risk of typhus to the non-gravid woman, there is more than an equal amount of danger of metria to the puerperal woman.

In the way of Infection and Contagion, it may, I think, be demonstrated, that puerperal fever may be carried from one patient to another by the proximity of lying-in patients, and by attendants and nurses conveying the infectious principle from one patient to another. There can be no doubt whatever that the exposure of a lying-in woman to the influence of the fomites or other impalpable or material agencies, derived from erysipelas, typhus, hospital gangrene, scarlet fever, small-pox, decomposing animal bodies, especially of persons who have died from any form of fever or inflammatory disorder, and other conditions, conveyed to the lying-in woman by the breath of those about her, or the hands and clothes of her attendants, will produce the disease. When the disease prevails in lying-in hospitals, and acquires a certain virulence, it is apt to prevail epidemic ally, all the lying-in women exposed to the danger becoming affected; and it is believed to prevail in certain districts and seasons, as an epidemic apart from all influences of contagion and infection.

The prevention of Sporadic cases belongs in part to the general sanitary questions of dwellings for the poor, draining, ventilation, water-supply, and other matters bearing upon the physical condition of the poorer classes of society; and in part to the attention given to cleanliness, the removal of morbid secretions, and other removable causes of disease, in individual cases. As regards lying-in hospitals, it may be questioned whether they have not proved in many respects an injury, instead of a blessing, to those classes they are intended to relieve, and certainly I believe the feeling of the profession is against any extension of the system of lying-in hospitals. They have demonstrated more emphatically than the facts derived from any other source, that puerperal fever is a contagious and a preventible disease. A large amount of the mortality from puerperal fever in large cities has occurred within their walls, and from these institutions it necessarily spreads by medical attendants, nurses, patients, and wet-nurses, to other lying-in women. It is evidently unsafe to congregate lying-in women, in any numbers, in the same building. This is the opinion of Dr. Robert Lee. Dr. Simpson has suggested that lying-in charities should consist of detached buildings rather than of hospitals. Dr. Ramsbotham declares himself very emphatically against such institutions, and relates that he once refused a valuable appointment in a proposed new charity of this kind. Drs. Lever and Oldham, when the managers of the splendid income of Guy's proposed to erect a new lying-in hospital, exerted their influence against the origination of such a building. Dr. Copland, who for a long time held an appointment as consulting physician to a lying-in hospital, has given a very emphatic opinion respecting the dangers arising from such institutions. There can be little doubt that the suppression of such hospitals would effect a great saving of human life. No care that ever yet has been devoted can render the mortality *in lying*-in hospitals in this country, as favourable as the mortality amongst women confined under the most miserable circumstances at their own homes. Meantime, while lying-in hospitals exist, every care should be given to the ventilation of the wards, the allotment of sufficient space to each patient, and the removal of infected patients to separate wards. It has always been the laudable practice, when puerperal fever has prevailed in lying-in hospitals, to shut up infected wards, or to close the institutions altogether. What applies to lying-in hospitals, holds good also with respect to the admission of lying-in patients into the wards of general hospitals.

As regards the care of individual childbed women with reference to the sporadic development of metria, much depends upon the nurse. It is in this respect of the highest importance to have trained and educated nurses, understanding the subjects of diet and ventilation, and made well aware of the importance of cleanliness in all that relates to the management of the lochial and lacteal secretions. I have already referred to the relation of questions of drainage, the construction of dwellings, and other sanitary matters, to the sporadic production of puerperal fever. In this particular concern our profession is at present very much at the mercy of the public. We are not responsible for the great causes of zymotic disease which exist. With the improvements in our sanitary arrangements, puerperal fever will diminish like other diseases of the same class, or become far more easy of prevention.

When epidemic puerperal fever, or the conditions which give rise to it, exist, what can be done to prevent its development or extension? It has been proposed to keep lying-in women in suspicious circumstances, constantly under the influence of quinine, iron, or some other tonic or antiseptic remedy. But the extent of the powers of such medicines are matters rather of reasonable supposition or belief than of actual proof. I should be disposed to place great confidence, from what I have seen of its use, in the chlorate of potash as a prophylactic against puerperal fever, in doses of from five to ten grains three times a day. This drug appears to act by liberating in the economy, the oxygen and chlorine it contains.

In considering the spread of puerperal fever by Infection and Contagion, the different circumstances under which the poisonous element is circulated must be borne in mind.

It is obvious that women who are in the latter months of pregnancy, and in whom delivery may be expected from day to day, should be secluded as far as possible from proximity to patients suffering from the exanthemata, erysipelas, hospital gangrene, scarlet fever, putrid sore-throat, or any other disorder the miasm of which admits of conversion into the puerperal poison, and that any indirect communication by third parties or in any other way should be prevented to the greatest practicable extent. The relations of Medical Men, Students, Midwives, and Monthly Nurses, to the propagation of puerperal fever, require separate notice.

According to the present arrangements of our profession, there is no class of medical men exempt from the risk of conveying to puerperal patients, infectious or contagious matters from disorders capable of producing metria. Those who practise midwifery as a specialty, may meet with sporadic cases of puerperal fever capable of furnishing infectious matter, or they may be called to see cases of puerperal fever in consultation. Men holding hospital or dispensary appointments are also obliged to see the puerperal patients of such institutions. Surgeons in general practice, necessarily attend cases of infectious disease, convertible into metria, when conveyed to the lying-in woman. Surgeons holding hospital appointments, who perform operations and practise midwifery, as Dr. Simpson has forcibly pointed out, have to deal with lying-in women, and also with cases of an infectious and contagious nature such as phlebitis or erysipelas. If students attend midwifery cases while their anatomical and surgical education is going on—and it is difficult to seclude themselves entirely from such subjects—they unavoidably expose patients to the risks arising from their dissections; from their attendance upon medical and surgical hospital practice; and also their pathological studies. Midwives frequently convey the disease from one patient to another, and the same may be said of Monthly Nurses.

Since it is impossible, or next to impossible, considering the frequency of infectious or contagious diseases, for any man in practice to escape entirely from the risks of infecting or inoculating lying-in women, especially when such patients are under circumstances favourable to infection or inoculation, the question arises as to the best mode of rendering these risks nugatory, or of destroying them altogether. In the Lecture on Puerperal Fever I have given the evidences which appear to me to prove that the blood and breath of the practitioner is a very common medium of infection. This would point to the propriety of neither going nearer to, nor remaining longer in, the vicinity of a patient suffering from puerperal fever, or any convertible infectious disease, than is necessary; and of not approaching so near to a recently delivered woman as to expose her to danger from the breath. Where the presence of infection is very evident, the propriety of changing the clothes is obvious, and generally practised; and many expose their clothes to the fumes of chlorine after exposure to risk. After touching any wound or purulent surface, the hands should be not merely washed, but washed in a solution of chloride of lime, or some other disinfecting fluid. It would only result in good and in confidence on the part of patient and practitioner, were the practice common, if the hands were habitually washed in a solution of chloride of lime, before attending a labour, and, in suspicious circumstances, before and after every vaginal examination. The fingers of the practitioner are evidently a fertile source of contagion. Dr. Simpson compares the fingers of an accoucheur who has been touching wounds or pathological specimens to the armed points used in vaccination. The small amount of matter conveyed by the hand, which is capable of producing disease, is almost incredible. A practitioner has been known to have an outbreak of puerperal fever in his practice,—to have freed himself by absence from home so as to have attended cases without risk,—and then to have had a second outbreak after wearing a pair of gloves which he had worn during the first attack. It has been recommended that gloves should not be worn at all by accoucheurs, and certainly, considering the interests at stake, no precautions can be too minute under circumstances of suspicion. Keeping the nails closely cut is another point worthy of attention. The condition of the utero-vaginal canal is, it must be remembered, the most favourable which can be conceived, for inoculation. The mucous surfaces are in a state of high excitement; abrasions and slight lacerations of the vagina and perinæum are extremely common. The removal of epithelium from the surface of the os uteri, at the time of labour, is almost universal, and it is to this part, of course, that the finger of the accoucheur is necessarily directed during his examinations. With respect to the attendance of students on cases of midwifery, some time ought to be set apart for their attendance upon midwifery cases, during which they should neither dissect nor attend the wards of the hospital, or the deadhouse. The dangers arising from the attendance of students upon lying-in women, when they are dissecting and attending autopsies, is exhibited in the most startling form by the statistics of the Great Vienna Lying-in Hospital. In this institution, in the six years from 1840 to 1846, 22,120 women were delivered. Of these, 2,260 died; the mortality being in the enormous ratio of 1 in every 10. The mortality has since been reduced to 1 in 74, and the reduction has dated from the time when Dr. Semelweiss enforced the regulation, that every student should, before and after each vaginal examination, wash his hands in a solution of chloride of lime, and also interdicted the students from touching dead bodies.

As regards the deaths arising from accidents and other disorders during childbirth, there is also much hope of diminishing the amount of mortality. Every thing points to the importance of only allowing qualified persons or advanced students to attend women in parturition. In no other circumstance or operation whatever, where the mortality was 1 in 189, would ignorant women or unqualified persons be allowed to practise. The common feeling has been, that any one might safely attend a woman in middle life who had already borne children; but the tables I have given show that rather more than 800 women perish in England yearly from the various accidents and diseases of child-birth, between the ages of thirty-five and forty-five. The attention and anxiety of practitioners are commonly given to first labours; but statistics show unerringly that the greatest and most fatal risks from accidents, &c., attend the delivery of women who are mothers of families, and above the age of thirty-five. It is in these women that death occurs most frequently from hæmorrhages, puerperal mania, rupture of the uterus, exhaustion, &c., while they are comparatively exempt from the danger of puerperal fever. On the other hand, our care in guarding young lying-in women from their greater risk of taking metria should be most unceasing. The proportion of deaths from hæmorrhage are very large. As far as the statistics from which I have quoted are available, the deaths from flooding alone are more than 10 per cent. of the total deaths in child-birth. Now, there can be no doubt that, with the appliances and means we at present possess, this large item of childbed mortality might in the hands of educated obstetricians be greatly diminished, and that death from flooding ought rarely to occur. Another large reduction might be made by substituting the induction of premature labour, or turning, or the forceps, but especially premature labour, for craniotomy. By the employment of turning or the forceps, the mortality is considerably diminished; but by the induction of premature labour the risk of death to the mother from the performance of craniotomy becomes very slight indeed. We have seen that in almost all cases the induction of abortion or premature labour might, by the exercise of foresight, be substituted for craniotomy. Taking the annual number of deliveries—the proportion of craniotomy cases—and the scale of mortality from this operation, we have the data for an approximative estimate of the maternal mortality caused by craniotomy in England. This would amount to nearly 400 deaths per annum from this cause alone, all or nearly all of which might undoubtedly be averted.

In concluding the present course of Lectures I cannot but look forward to the time when the present mortality from childbearing will be greatly lessened. This is a subject in which we of the present day must bear our part, and it is consolatory to know that every succeeding generation of students and practitioners will come to the work with added means of science and experience, until at length we may hope that no unnecessary mortality shall take place in parturition. Women, it has been remarked, were ordained to bring forth children "in Sorrow," but certainly not in Death.

Clinical Remarks
ON
A CASE
OF
PERI-TRACHEAL DEPOSIT,
WITH
SECONDARY DISEASE OF THE LUNGS.

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There can be little dispute as to the circumstances which especially call for the minute clinical investigation of any given disease. The more frequent, deadly, and incurable a malady is shown to be, the more sedulous and accurate the study which it becomes necessary to devote to it. And, in this respect, it is impossible to question the common-sense opinion, that the most familiar diseases are, on the whole, the most instructive; and especially, that their history affords the most fruitful theme for the remarks of those who are engaged in clinical teaching.

But the converse of this proposition can scarcely be accepted without considerable limitation. It by no means follows that the more infrequent diseases are unworthy of special notice. Even presuming that any given malady is so rare that a physician can scarcely expect to see a second instance of it in his lifetime, still his responsibilities and motives in connexion with it, on account of this very fact, become more decided; and may fairly be said to extend, beyond his own interests, to those of the science for which he lives. Just as it is obvious that our information respecting any but the commonest diseases is derived in no small degree from the observations of those who have preceded or assisted us in similar inquiries, and that nothing but a combination of the facts thus contributed enables us to know anything of the less frequent maladies, so it is evident that even the rarest lesions to which the human body is liable may possess such indirect importance as almost to demand record. Especially do they claim such a notice, either where they represent an exaggeration or deviation from an ordinary type of disease, and thus enlarge or correct our views concerning that type, or where they afford, by their symptoms, a clue to the phenomena of commoner maladies.

It is for this reason that I venture to select for the subject of the following clinical remarks, a rare form of pulmonary lesion; a form which, however unusual, has a remarkable interest, both from its bearing on the symptomatology of the organ of respiration, and from its connexion with those phenomena of the organic or sympathetic system of nerves respecting which both pathology and physiology have at present so much to learn.

S. W——, an unmarried woman, aged twenty-two years, had suffered, during about three months, from slight cough, attended with little or no expectoration, but with some emaciation, and with amenorrhœa. Her family was free from phthisical taint. Her habits were temperate; her occupation that of a laundress; her circumstances latterly so straitened as to reduce her food below its customary standard of quantity and quality.

About a month before her admission into the Royal Free Hospital, she was suddenly seized with the severe symptoms from which she dated the present illness. Her cough became violent, and was accompanied with pain in the region of the upper half of the sternum, as well as with expectoration. She lost all appetite; her strength was prostrated; and gradually becoming worse, she applied and was admitted an in-patient on the 25th of January.

At this time her aspect was that of a person suffering from some acute pulmonary disease. Her face, pale and somewhat emaciated, had a haggard anxious look, and her nostrils worked almost convulsively with each inspiration. Her lips were of a blue tinge, suggestive of partial asphyxia. Her skin, though hot and dry over the trunk, was colder than natural at the extremities. Her pulse was about 120 per minute; her breathing about 36; and both inspiration and expiration (but especially the latter act) gave rise to a mucous rattle, audible at some distance from her bed, and precisely like what is vulgarly known as "the dead-rattle" that immediately precedes the final agony. The voice was feeble but distinct. Her cough was frequent, and somewhat paroxysmal in character; but though loose enough to suggest an easy expectoration, this expulsive act was rarely effectual, being repeated several times before it hawked up a dull-yellow, opaque, puriform, and somewhat nummular sputum.

On examining the chest, there seemed no deficiency of movement on either side, although a forced inspiration decidedly bulged the left side a trifle more than the right. The vocal thrill was equal on both sides. The vocal resonance was somewhat more distinct on the right, especially in the subclavian region, where there was slight dulness to percussion, and where the inspiration was rather louder, harsher, and more tubular than elsewhere, and the prolonged expiratory murmur somewhat similarly affected.

It was not, however, without some difficulty that these sounds could be verified. All of them were veiled and nearly lost in the mucous rattle before mentioned, which was heard over the whole chest as a large loud sound of low tone, with irregular remissions of intensity, but scarcely any real interruptions or intermissions. It was loudest during expiration. In never approached to a liquid or bubbling sound. It was utterly unlike the harsh snoring sound sometimes produced by aneurismal interference with the larynx. Its distinctness increased as it was traced towards the manubrium.

Besides this sound, a little mucous crepitation occupied the more depending parts of both lungs —namely, the lower lobes posteriorly.

The heart, rather large and weak, appeared to be otherwise quite healthy, as did also the larger vessels. The integuments, including those of the face, were flabby and almost puffy, but there was no anasarca. The urine was scanty and high coloured, but devoid of albumen. The bowels rather constipated.

The diagnosis of the case was thus opposed by various considerations, such as together seemed quite to preclude any very definite opinion. The history pointed to a disease of the respiratory organ, seriously affecting the general nutrition, suspending menstruation, and threatening asphyxia —indeed producing a partial asphyxia. The symptoms and physical signs indicated at least a two-fold lesion. Difficult as it was to distinguish those trifling deviations which pointed to the right side of the chest, through the loud rattle which resounded from the larger air-passages, those deviations, once recognised, offered a *point d'appui* for conjecture. They justified the suspicion that this part of the respiratory organ was the seat of an effusion of some kind, such as occupied the lung, and prevented its play. The characters of the sputum seemed to add, that this effusion either excited the secretion of puriform mucus into the neighbouring small bronchial passages, or itself merged into pus which was expelled through these canals. But while much of the right side of the chest seemed to be occupied by this deposit or effusion, part of the left also offered slighter indications of similar disease, and a little mucous crepitation could even be distinguished in the posterior and lower parts of both lungs. There seemed therefore to be fair ground for conjecturing the mischief to be comparatively general, either in itself, or in its reactions upon the neighbouring tissues.

Turning to the chief local feature of the case— the noisy rattle already described—the two suggestions that perhaps most naturally offered themselves as explanations were instantly dismissed with a negative. There was nothing to indicate either disease of the larynx, on the one hand, or the presence of an aneurism on the other. Indeed the sound itself was quite unlike any of the various sounds produced by either of these two causes which I have ever listened to. It was neither the sound of air rushing through an occluded trachea, nor the sound of air rushing through a glottis constricted by disease, or by reflex irritation of the laryngeal nerves; but an exact imitation of the "dead-rattle." Its characters suggested the vibration of no very large quantity of a dense semifluid mass in the trachea and bronchi: its point of greatest intensity (over the manubrium) precisely corresponded to this suggestion. So far as one dared hazard a conjecture, it seemed to be due to some interference with the mechanism of expectoration in this part of the respiratory channel: a conjecture which, was confirmed by the frequent and ineffectual efforts from time to time made by the patient to get rid of the sputum —efforts, it may be added utterly unlike the *thoracic* failure of this act witnessed in the worst cases of emphysema.

Under these circumstances it seemed impossible to combine all the features of the disease into any satisfactory opinion respecting its nature. Numerically, the likeliest conjecture was that of tubercle of the lung, with early and excessive disorganization of the trachea by similar deposit. But mere ulceration of the trachea could scarcely give rise to the above signs of obstruction, except under circumstances such* as there was nothing to justify the suspicion of in this case. Again, such lesions rarely extend into the bronchi; and are usually anticipated and exceeded by similar laryngeal mischief, discoverable by its ordinary symptoms.

The negative evidence derivable from the sputum was equally inconclusive. The absence of lung-tissue under the microscope only justifies an inference of the absence of tubercular disease where there has been a more sedulous and frequent search than this case afforded me an opportunity of making: to say nothing of the possibility of a puriform secretion from the bronchi adjoining a solid and hitherto unsoftened tubercular mass. In like manner the very suspicious nummular aspect of the sputum was partially explained by the small quantity expectorated, and by a possible resorption of its watery parts during the comparatively long delay to which it was thus subjected in the bronchi. Lastly, while the physical signs were scarcely compatible with the supposition of acute phthisis, there was more asphyxia, and less fever, than in any case of the latter disease which has ever fallen under my notice; and the low temperature of the extremities was unaccompanied by the œdema which often accompanies that failure of circulation which ushers in death by pulmonary phthisis.

There could be little doubt that the patient was almost moribund on her admission, and past all hope of that reaction which the comforts and the treatment of an hospital sometimes bring about—even in cases where, as in this instance, the desperate state present seems due to neglect or privation almost as much as to disease.

She was treated by a small blister over the sternum, as well as by mustard poultices and turpentine stupes to the neighbourhood of this region. After a gentle aperient dose of castor oil, she began to take a mixture consisting of one-eighth of a grain of the hydrochlorate of morphia, with about ten minims of chloric ether, and a little dilute hydrochloric acid, every three or four hours. Strong beef-tea and wine were also given frequently in small quantities, and a little brandy (about three ounces in the twenty-four hours, diluted with cold water) was soon substituted for the wine. Under this treatment, she appeared, during about thirty-six hours, to rally from the threatening state of exhaustion and dyspnœa in which she was first admitted. In the evening of the second day following her admission, she had a violent paroxysm of pain and dyspnœa, ending in complete collapse, from which she was only aroused by a full dose of aromatic spirit of ammonia, with a little opium, judiciously administered by Mr. Curran, the resident medical officer to the hospital. A few hours later, a threatening of a similar attack appeared to be staved off by similar measures. But she gradually sank, and died, in a state of tranquil and painless exhaustion, on the 29th of January.

The body, examined about sixteen hours after death, was but imperfectly rigid. On careful dissection, it exhibited the following appearances:—

The heart was relaxed and flabby; its *left* ventricle uncontracted; its right ventricle distended with a tolerably large quantity of dark blood. Its valves were healthy, as were also the large vessels arising from it.

The right lung had not collapsed over about one-third of its anterior surface, including its middle and most of its upper lobe. All this portion of it had a pale-red or flesh-coloured hue, defined by an abrupt, wavy margin from the neighbouring collapsed and healthy-looking pulmonary tissue. A similar appearance, of less distinctness, engaged a very small portion of the anterior surface of the left lung, near its root.

The larynx, trachea, œsophagus, and lungs were next removed in a mass, and subjected to further examination. The diseased portions of lung were nowhere absolutely devoid of crepitation when compressed. But in the amount of this crepitation they contrasted with the somewhat dark and engorged healthy lung in their neighbourhood just as remarkably as they did in respect of colour. Indeed, all the portions in which this colour and consistence were best marked had a specific gravity enabling them to sink readily in spring-water. Their section allowed the expression of a whitish, albuminous-looking juice from the pulmonary lobules, and of a purulent fluid from the cut orifices of the smaller bronchi. The characters of this pus were identical with those of the matter expectorated during life.

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* Amongst which circumstances I may especially allude to one I have known fatal—namely, the detachment of a valvular flap of mucous membrane by ulceration, blocking up the larynx during the inspiratory act.

On dissecting carefully around the bifurcation of the trachea, it was found that the anterior aspect of the fork of this tube was occupied by a dense, dull, yellowish-white mass, about half an inch in thickness, of extremely tough and fibrous consistence, and about one inch deep in the vertical direction. The right side of this mass extended along the root of the lung in front of the right bronchus, where it became fused into the fibrous capsule of a calcified bronchial gland, that seemed to bound it in this direction. To the left side it spread, as a layer of rapidly-decreasing thickness, for a short distance over the root of the left lung. Upwards it reached, on the right side, a little way along the trachea, and was loosely connected with an oblong bronchial gland (also calcified in its centre) here: towards the left side, it crossed obliquely over the trachea, to become moulded, with a great and sudden increase in its thickness (here three quarters of an inch), upon the left third of the tracheal circumference, for about an inch and a half, just avoiding the œsophagus and its attachment to the respiratory tube. The areolar tissue attaching the aorta and great vessels to this mass was almost everywhere reduced to a scanty (and therefore rather tense) network; but it was nowhere so deficient as to bring the mass into immediate contact with them, far less to imply any fusion with their coats. But at the left side and lower part of the trachea, the mass was completely agglutinated to this tube, resting upon it by a firm immovable union, which evidently depended on the complete involvement in the disease of the normal areolar tissue; so that a section showed the cartilages of the trachea immediately bounded by the new substance. Just at this line of junction the mass was in one place softened, and apparently detached from the subjacent cartilage. The exact degree in which the calibre of the trachea had been diminished by the pressure of this adventitious deposit, it was difficult to determine after laying open the tube. But there could be no doubt that a considerable effect of this kind had obtained during life. Indeed, even after removing the lungs from the body, and thus relieving the parts of that surplus pressure which the pulmonary deposit must probably have brought about, the influence of the mass on the trachea was well shown by its separating the adjacent rings of the adherent trachea to a distance from each other amounting to at least twice or thrice that elsewhere intervening between the neighbouring cartilages. This local elongation of the trachea must obviously have sufficed to effect a considerable diminution of its calibre, such as would impart a much greater efficacy to the further pressure or flattening of the tube by the deposit which occupies its circumference. The inferior laryngeal nerve of the left side was stretched and flattened over the deposit, and was also thickened and redder than natural in the same place. But it was not further involved in the disease.

On examining thin sections of this mass under the microscope, with the aid of various reagents, it could be seen that it consisted of an adventitious deposit, for which the original areolar tissue constituted a kind of stroma. The new mass was, in fact, imbedded in the old areolar network, the white and (especially) the yellow elements of which were visible in the form of tightly-stretched meshes, the interstices of which were so distended with the adventitious substance that they could only exhibit their ordinary curling and hooked appearance at the extreme edges of any given section. The vessels which could also be seen, were here and there connected with (and apparently occupied by) large compound cells, closely resembling those of the spleen, and, like them, containing what appeared to be blood-corpuscles in various stages of disintegration. The new substance itself consisted chiefly of delicate and indistinct fibres, analogous to the ordinary fibrous development of plastic lymph; with this fibrous mass, however, were mingled so many granular and indistinctly-nuclear particles, as to give the whole a somewhat larger amorphous constituent than is usually found in new fibrous tissue. Near the softened part, this amorphous element was more abundant; so much so, as almost to suggest its approximation to the characters of tubercle.

The pulmonary disease—which, though nowhere traceable by direct continuity into the tracheal, approached very near it, and, on the right side, increased in intensity almost directly with this propinquity—offered some analogies with the tracheal. The lung was infiltrated with a large quantity of albuminous fluid, in which were floating pus-cells and "mucous corpuscles," together with innumerable epithelial cells. The latter were evidently the ordinary epithelia of the pulmonary lobules, abnormal in nothing save in their quantity, and in the polyhedral forms which close packing had forced them to assume. The lobules were indeed many of them almost stuffed with these epithelial particles, which, adherent to the lobular membrane, had either been washed out or broken down in the centre of the lobular cavity. The capillaries of the diseased lung were singularly empty of blood corpuscles; while they were almost everywhere bulged, at short intervals of their length, by large ($\frac{1}{1200}$ in. diam.) cells containing refractile granules, like the more sparing and less uniform bodies of the same kind found in the tracheal deposit. In some instances the membrane inclosing these granules appeared to be deficient over part of their exterior: rarely it was absent all around them, so that they were merely granules aggregated in a spherical mass, not enclosed within a cell-wall. They seemed to be nowhere free in the lobules, except under circumstances which referred this extra-vascular site to accidental violence. No destruction or lesion of lobular tissue could be detected.

The connexion between the above appearances and the symptoms present during life is sufficiently obvious; and scarcely requires any notice, save perhaps in one or two of its details.

Firstly, as regards the remarkable rattle present at the bifurcation of the trachea, there seems to be a full explanation of its close similarity to the "death-rattle" of the final agony. This sound depends on a collection of mucus in the trachea and the larger bronchi,—mucus which remains there, fluctuating backwards and forwards with each expiration and inspiration, because the respiratory apparatus has lost, either the sense to appreciate, or the power to expel it, or both of these conditions of its ejection simultaneously. Now just as the identity of sound argues a similar physical cause in the form of the tough puriform mucus which here drifted to and fro in the adjacent segments of the trachea and bronchi, so it is impossible to avoid referring the peculiar difficulty of expectoration present in this case to the failure (from a different cause) of the motor element of this act. The trachea was rendered immovable and uncontractile by the mass which was apposed (and mechanically united) to its outer surface; and hence all expectoration became extremely difficult. It would scarcely be logically fair to analyse the mechanism of expectoration in order to prove this proposition, because to do so would oblige me to argue in a circle in order to obtain what seems to be the chief detail of interest derivable from this marked feature of the case. But assuming that causative relation of the tracheal lesion and symptom, to which their connexion inevitably leads us, this case appears to reflect some light on that mechanism itself, by indicating how much the mobility—not to say the contractility—of the trachea and bronchi aids the sudden and coincident opening of the glottis, and expiratory movement of the chest in ejecting obstructive quantities of mucus from these parts of the respiratory channel.

But what relation shall we assign to the tracheal and pulmonary lesions? This question it is by no means easy to answer with exactness.

In the first place, however, it seems clear the two lesions were in no sense identical with each other. To say nothing of the discontinuous character of the two, as seen in attempting to trace one into the other, or to pass along the root of the lung from the trachea to the pulmonary disease, their histological details show still more important distinctions. The one was a new and adventitious deposit, the other contained no tissues really foreign to the healthy structures. The one involved the starvation, and had begun the destruction, of the original textures in and amongst which it was seated: the other not only had not attacked them, but might almost be said to have exalted—even while it disturbed—their nutritive (as distinguished from their functional) changes.

Lastly, the symptoms as well as appearances afford some grounds for the conjecture that one dated from a remote period, while the other was of comparatively recent occurrence: in short, the pulmonary lesion appeared to be in some sense secondary to, and consequent upon, the earlier deposit around the trachea and bronchi.

What connexion the calcified bronchial glands had with the tracheal deposit it is difficult to decide. But from the probability that the disease of these glands was itself more or less tubercular, I am induced expressly to point out that neither of the two other lesions had the slightest resemblance to tubercle. Without venturing to say anything unduly in favour of the objective way of studying the disease known as tuberculous (even at a time when the disease seems to be investigated by some in what I cannot but think a dangerously subjective manner), I may at least state that neither fibre nor epithelium is tubercle; and that both the microscopical and the general appearance of each of these two deposits would justify an unqualified contradiction of their having this import.

Assuming the secondary character of the pulmonary lesion, it becomes interesting to inquire how it was caused by the tracheal deposit. As there was no appearance of the latter exerting any pressure on the pulmonary arteries, and no analogy between the state of the lung and that gangrenous condition which obstruction of these vessels is often known to bring about, we can scarcely regard them as the medium of causation.

A different set of organs seems to supply the requisite medium of connexion between the two lesions. The tracheal deposit evidently involved, at its lower part, many of those filaments of pneumogastric and sympathetic nerve which unite to form what is called the anterior pulmonic plexus on the root of the lung: and thus must probably have brought about, not only a considerable though slow compression of the filaments, but especially an obstruction of their supply of blood, such as would imply a still more effective disorganization. At any rate, the state of the lung was somewhat similar to what is seen in animals as the result of injury or section of the pneumogastric: a state which involves, first an exudation, and next a disease, sometimes ending in a diminished total vascularity of the pulmonary tissue. The regulative office of this organic nerve in relation to the calibre of the vessels, seems precisely akin to that of the sympathetic in other parts of the body; and thus explains the close analogy seen between the effect which, for example, the extirpation of the superior cervical ganglion has on the mucous membrane of the eye, and the section of the pneumogastric often has upon that of the lung. Indeed, there is fair ground for supposing that this effect of section may be imitated by other lesions of the pneumogastric. In the "Transactions" of the Pathological Society will be found a dissection by me of an aneurism, the wall of which had involved this nerve, and apparently thus given rise to a kind of bastard pneumonia, by no means unlike that present in this interesting case.

I scarcely like to pursue the subject further by inquiring whether similarly careful necropsies might not tend to explain some of the more anomalous instances of lung-disease from time to time met with in hospital practice, or whether any modifications in the circumstances of such lesions could really cause their appearances to resemble what we should be likely to confound with phthisis as well as with pneumonia. A single instance is scarcely a suitable basis for conjectures of this kind, however analogy and probability might confirm them. But one proposition may, I think, be deduced from such a case:—that, founded as rational Medicine is on Pathology, it has yet much to derive from descriptive Anatomy and Physiology, as well as from that field of Microscopic and Chemical investigation which has of late years been so fruitful, and therefore so beset, with explorers.

After all, however, it is the treatment which most interests the practitioner of our art. And little as it accomplished in the above case towards preventing, or even deferring, the fatal event, it could hardly be doubted that it relieved pain, supported strength, checked the agony of dyspnœa, and, I might even hope, produced a comparative *euthanasia*. The means adopted were neither novel nor unusual. But it has been lately suggested by an eminent chemist, that alcohol, inasmuch as it checks the formation of carbonic acid in the system, *must* be hurtful wherever there is a tendency to asphyxia, it seems necessary to protest against such a syllogism. It would not, indeed, be difficult to expose its deficiency as an argument. But it is more satisfactory to refer it to experience as a fact. And nothing but want of space prevents me from definitely quoting one or two rare (and all but fatal) cases, in which the empirical evidence in favour of stimulants of this kind has been quite complete;—in which, for instance, alcohol and ether have, to all appearance, repeatedly controlled the paroxysms of partial asphyxia caused by a pulmonary deposit, and thus mediated the complete restoration of the patient.

Brook-street, Grosvenor-square, Feb. 1857.

Clinical Lecture

ON

EXCISION OF THE HIP-JOINT.

By JOHN ERICHSEN, Esq., F.R.C.S.,

PROFESSOR OF SURGERY AT UNIVERSITY COLLEGE, AND SURGEON TO THE HOSPITAL.

Gentlemen,—I wish to day-to direct your attention to excision of the hip-joint in reference to an operation of this description which I performed a few weeks ago. But before proceeding to speak of the operation itself, I must say a few words on the subject of hip-disease generally, in order that you may understand the course that is pursued by the different varieties of this affection, and be able to discriminate those cases in which this operation is applicable from those in which it is not admissible.

Under the term "hip-disease" is included every inflammatory affection of the coxo-femoral articulation; and in this way are confounded together several diseases which differ widely from one another in their pathology, symptoms, results, and treatment, and which stand in very different relations to the operation of excision.

If we look at the hip-joint in a surgical point of view, we shall see that it is composed of three distinct parts—viz., the soft joint-structures, the head of the femur, and the acetabulum. Now, any of these division of the joint may be primarily and even separately affected; and we may accordingly divide hip-joint disease, or coxalgia, into the three varieties of *arthritic*, *femoral*, and *acetabular*. This division is not only a pathological arrangement, but, as I shall presently point out to you, is of a truly practical nature having a special bearing on the question of excision; and as we have recently had cases in the hospital illustrating these several varieties of the affection, I am anxious to take this opportunity of directing your attention to them.

1. *Arthritic hip-disease.*—This is usually an acute inflammatory affection, attended by those local signs and constitutional symptoms that are characteristic of deep-seated and severe articular inflammation. The joint becomes hot and swollen and is exquisitely sensitive; in fact, the pain that the patient suffers is more severe in this than in any other form of arthritis with which I am acquainted. The sufferings are greatly aggravated at night, and by the startings and convulsive twitchings that occur in the limb when the patient falls to sleep. It is impossible to move the patient, the slightest disturbance—merely laying the hand on the limb, or even touching the bed, or shaking the room by walking heavily across it —brings on paroxysms of intense pain. This variety of the disease chiefly occurs in young adults, often arises from exposure to cold and wet, and usually terminates in anchylosis without suppuration. Abscess may form, and dislocation of the head of the femur take place; but this I believe to be rare, and not to occur unless the bones become secondarily implicated.

The treatment of this form of the disease is simple. It consists in the administration of calomel and opium, with leeches to the hip, fomentations, and perfect rest. In the early stages, a splint cannot be borne; but as the disease advances, it becomes necessary to apply one; and then this should be done under the influence of chloroform. Indeed it is not unfrequently necessary to give chloroform in order to change the sheets, or attend to the cleanliness of the patient, so great is the suffering produced by change of position.

In this variety of coxalgia, excision is not necessary: under proper management the head of the bone may always be brought into or kept in sufficiently good position for anchylosis to take place, so that a straight and useful limb may be left.

The following case, reported by Mr. Carden, illustrates well this variety of the disease:—

Harriet F——, aged fifteen, was admitted into University College Hospital, Nov. 27th, under the care of Dr. Garrod, for rheumatism of the left leg. As it was found that there was acute inflammation of the hip-joint, the patient was transferred to Mr. Erichsen; but so acute was the pain that she suffered, that it was impossible to remove her to the surgical ward without placing her under the influence of chloroform.

The patient states that she has suffered pain in the left hip, first of a flying but afterwards of a more settled nature, for about a month. The pain has gradually increased, and is now excessively intense—so much so that she cannot turn or move in bed, or allow the limb to be touched; she cries out if the bed even is touched. The affected limb is slightly lengthened, is adducted, and the foot everted. There is some heat and swelling about the hip, giving it a rounded appearance, but no feeling of fluctuation or threatening of abscess; pain in the knee, but not so severe as in the hip. At night there are painful jerking spasms in the limb which prevent her sleeping. Pulse 120, weak, and occasionally intermittent; sweats at night; has lost flesh very rapidly. She was ordered calomel, two grains; opium, half a grain: every six hours. Twelve leeches, and afterwards hot fomentations to the hip, which was supported on a pillow.

She continued this plan of treatment till Dec. 6th, when the pain being mitigated, the spasms less frequent, and the hip less tender, a long splint was ordered to be applied, to prevent shortening of the limb. This was applied under chloroform, and was kept on till the 11th, when, in consequence of pain, it was taken off, and, under chloroform, the starch apparatus was applied. This gave great ease. The calomel was discontinued, and she was put on cod-liver oil, quinine, and good diet. When the starch apparatus was removed, on Jan. 5th, the limb was of good length; there was little pain, even on pressure. Since this time she has gradually improved in general health, but the joint continues stiff. The hip is of good shape, and the limb, though apparently shortened, owing to some obliquity of the pelvis, is of exactly the same length as the sound one.

In this case you will see all the leading features of the acute *arthritic* form of hip-disease. Its occurrence in a young adult, its rheumatic origin, the severity of the attendant inflammation, the acuteness of the suffering, and its termination by anchylosis without suppuration are all characteristic signs.

Before leaving this part of the subject, I wish to say a few words about the anchylosis that occurs in these cases. When this is *complete*, the osseous structures being fused together, I believe that no attempt should be made to restore the mobility of the limb. I have heard of surgeons cutting down upon and sawing across the neck of the femur, but I cannot think that such an operation is expedient, and would not advise you to attempt it. In this form of anchylosis, the limb is usually everted, but not much shortened, and the patient soon walks readily and with little stiffness, owing to the increase of mobility that takes place in the lumbar spine, and which makes up for the rigidity of the hip.

When the anchylosis is *incomplete*, much may, however, be done to restore the utility of the limb. In these cases, the head of the bone may continue in the acetabulum, and then there is no shortening but merely adduction of the limb and some flexion of it, the patient being unable to bring the heel to the ground. You will recollect seeing a case of this kind brought into the theatre about six weeks ago, in which I successfully adopted the same plan that we have so often advantageously employed in cases of contracted knee—viz., forcibly extending the limb under chloroform.

If dislocation of the head of the bone on to the dorsum ilii has occurred without previous suppuration, reduction may sometimes be effected. Two or three years ago, a woman was under my care at the hospital, in whom this had happened owing to softening and destruction of the ligaments of the joint. We, however, effected reduction under chloroform. We had great difficulty in retaining the head of the bone in the acetabulum, and as she one day fell and broke her thigh, we were obliged to desist from further attempts. The case, however, illustrated the fact, that in some cases of spontaneous dislocation in hip-disease, reduction may be accomplished.

2. The *acetabular* form of hip-disease differs widely from the last variety of this affection. In it the primary seat of disease is the pelvic bones, and the joint becomes involved secondarily by the implication of the acetabulum. This variety of the disease chiefly occurs in adults, always goes on to suppuration, never to anchylosis, and is, I believe, invariably fatal. It usually commences with abscess in the iliac fossa, or at some point within the pelvis. This abscess may descend by the side of the rectum, or pass out through the sciatic notch, under the gluteal muscles, or may find its way under Poupart's ligament, on to the fore-part of the thigh. At first there is usually no pain in the hip; but after a time the joint becomes tender, the pain increases, and at last becomes severe. Motion of the limb is impossible. There is neither shortening nor elongation except at the later stage, when possibly the head of the femur may slip through a carious cavity in the bottom of the acetabulum into the pelvis. Death eventually occurs from hectic. On examination, the pelvic bones will be found more or less extensively necrosed; the acetabulum is carious, rough, and probably perforated; the head of the femur, which is lying in this cavity, is deprived of its incrusting cartilage, and is more or less eroded, but in a much less degree than the acetabulum and neighbouring pelvic bones, especially the ilium. Large intra-pelvic abscesses and extensive sinuses will also be met with.

The treatment of this form of hip-disease is in the highest degree unsatisfactory. The patient's powers must be kept up, but he will eventually sink from hectic. Excision of the hip-joint is of course not practicable, on account of the amount of osseous disease and the extensive implication of the pelvic bones. The following case illustrates well the acetabular form of coxalgia:—

Iliac Abscess; Acetabular Disease of the Hip-joint; Caries of Lumbar Vertebra and Psoas Abscess.—E. B——, aged twenty-five, a farm labourer, strong and well-made, admitted April 29. No hereditary tendency to scrofula or any other disease can be made out. About twelve months since he first felt pains in the back and hips, which he attributed to exposure to the weather. He was blistered for them without benefit. About three months after this a swelling appeared, about the size of a small tennis-ball, in the right groin, about two inches above Poupart's ligament. He then first felt pain in the hip. The swelling continued stationary until two months ago, when it rapidly grew bigger, and the pains in the hip increased much.

On admission, there was a tumour about the size of an orange, situated deeply in the iliac fossa, about an inch above Poupart's ligament on the right side. It fluctuated on pressure, causing great pain locally. He had no pain on pressure over the lumbar spine, nor down the thigh, but pressure on the great trochanter and ilium caused extreme suffering. The thigh could be bent upon the body without much pain; but if it was adducted or rotated, he suffered much. The health was low; pulse quick, and a tendency to hectic. He was ordered quinine, and put on a nutritious diet.

June 3rd.—The abscess was opened, and about four ounces of pus evacuated. For a few days the pain in the hip was relieved, but it again returned; the discharge continued to be profuse, and the hectic symptoms increased, the patient's strength gradually giving way, notwithstanding an abundant diet. The pain became intense in the right hip. He could not bear the slightest pressure on the trochanter or around the joint, or indeed in any part of the limb, so as to influence the articulation. He lay on his side, with the thigh flexed on the abdomen. The head of the bone was in its place, and there was no shortening or deformity of the limb, nor any tendency to abscess outside the pelvis. An attempt was made to put the limb in splints, but it occasioned greatly increased suffering, and was abandoned. Emaciation and hectic gradually increased, and he died on October 18th.

On examination after death, it was found that the cavity of the peritoneum contained several ounces of dark and somewhat turbid fluid. The lungs were somewhat congested, but presented no sign of tuberculous deposit. The right psoas was disorganized, and a considerable quantity of pus was found in its sheaths, extending some way under Poupart's ligament. There was the cyst of a large abscess in the right iliac fossa, the bone being bare and bathed by the pus. On examining the hip-joint, the head of the femur was found in the cavity of the acetabulum, but deprived of its cartilage. The acetabulum was extensively carious, and perforated by an irregular aperture as large as a shilling, which communicated with the iliac abscess. The ischium and pelvic bones around the acetabulum were extensively carious. The bodies of the three first lumbar vertebræ were found softened and carious, giving rise to the abscess that filled the sheath of the psoas.

3. The *femoral* form of coxalgia is that variety of the disease in which the head of the femur is primarily affected by caries, often of a tuberculous character, the articulation becoming secondarily involved by extension of diseased action from the osseous structures. It occurs in strumous children, is usually subacute for a time at least, and is attended by the early formation of abscess. The collection of pus that forms around the joint will sometimes present in the gluteal region; but in other instances, as in the drawings that I now show you, and which are taken from two patients in whom I have excised the head of the femur, the abscess will pass down under the fascia lata and tensor vaginæ femoris until it reaches the outer part of the middle of the thigh, where it points, and where sinuses are established. After the disease has continued in a subacute form for some time, symptoms of active arthritic inflammation will often set in; the joint becomes destroyed, and the carious head of the bone is dislocated upon the dorsum ilii, where it lies in a suppurating cavity. In favourable cases, the abscess gradually contracts, the carious bone is thrown off, and false but firm anchylosis of the head of the femur in its abnormal position takes place. In other cases, however, the caries is progressive, profuse discharge is kept up, hectic sets in, and, unless the source of this mischief is removed by excision, the patient will soon sink exhausted.

In this form of the disease the pelvic bones are not usually implicated—never primarily; and if they become so as the affection advances, it is by the extension of the morbid action to other osseous structures than the head of the femur. In the great majority of instances the cartilaginous incrustation of the acetabulum is removed, and its place is taken by a fibroid fungous growth, which fills up the cavity. This fungoid mass is analogous in structure and appearance to the plastic deposits that we see thrown out in other joints after the destruction of the incrusting cartilage of bones, and is evidently an attempt at repair set up in the articulation.

The characteristics of the *femoral* form of coxalgia, then, are—the occurrence of the disease in children; the subacute character of the affection in its early stages; the sudden aggravation of the symptoms; the formation of extensive abscesses; followed by dislocation of the carious head of the bone on to the dorsum ilii, and the absence usually of all disease, certainly of all primary disease, in the pelvic bones.

It is in this form of hip-disease alone that operation is a proper procedure, when nature fails in throwing off the carious bone, and in establishing anchylosis between the remains of the head of the femur and the dorsum of the ilium on which it is lying.

The following case, reported by Mr. Jeaffreson, in which we lately performed this operation, illustrates well some of the points first adverted to:—

Tubercular Disease of the Head of the Left

Femur.—William W——, aged seven years and a half, was admitted into University College Hospital on Monday the 22nd of December, 1856. His father, a sawyer, is strong and healthy; but his mother died of consumption, aged twenty-six. About the Christmas of 1853 he went to live with his grandmother in Sussex, and is described as being a very fine healthy boy. While there, he fell from a donkey, soon after which he began to walk lame; he suffered also from measles, which was followed by hooping-cough; and he became greatly emaciated and very lame.

In October, 1854, he was admitted into University College Hospital, where he remained for about six weeks. His general health deteriorated, but his lameness improved, so that he was able to walk with crutches.

At the end of January, 1855, he became an out-patient at St. Bartholomew's Hospital, where he improved, with the use of tonics and putting the limb in splints.

In April, 1855, he became an out-patient at the Royal Orthopædic Hospital, and remained under the care of the surgeons of that establishment for fourteen months.

In April, 1856, he was able to get to school with crutches, and get up-stairs and down without assistance.

December 15th.—Mr. Erichsen opened a large prominent abscess over the head of the left femur, and a large quantity of cheesy-looking matter and healthy pus escaped. Rest, iron, cod-liver oil, and poultices were ordered.

22nd.—Admitted into University College Hospital. He is very weak and emaciated; sweats profusely at night, though in the day-time the skin is dry, harsh, and scurfy. His appetite is pretty good; tongue clean, rather red at the tip and edges; thirst more than natural; the stools healthy and regular every day. There is slight cough, from which he has not been entirely free since 1853. There is extensive dulness on percussion both under and above the right clavicle: the respiratory murmur is here harsh and deficient, and the expiration prolonged. The left leg is shortened about two inches and a half. Over the hipjoint is a prominent swelling; the skin over it is red and excoriated, especially round two openings situated at the upper and outer part of the thigh. On introducing a probe about two inches through these openings, it is found that they both impinge on dead bone, situated above the back of the acetabulum. On rotating the thigh, its head is found to be on the back of the ilium. The thigh is flexed on the abdomen, and the leg on the thigh, owing to the contraction of the hamstring tendons. He always lies on his right side, with the body bent forwards. Cod-liver oil, one drachm, three times a day, with meat and wine.

26th.—An abscess was opened by a small incision at the junction of the upper and middle third of the thigh, to the outer part, giving exit to four ounces of laudable pus.

Jan. 1st, 1857.—The purulent discharge from the abscess and the night-sweats more profuse. The appetite and strength are materially diminished. Continue diet and oil, with four ounces of wine.

7th.—The boy being under the influence of chloroform, Mr. Erichsen passed a probe through the upper wound, and found the head of the bone carious, and lying on the dorsum of the ileum, close above the acetabulum. He then made a T-shaped incision over the head of the bone, and divided the fibrous structures which held it *in situ*, and then the head being well pushed out of the wound, and the soft parts guarded by an assistant, he cut through the trochanters, from within outwards, by means of Butcher's saw; a very small portion of carious bone was gouged from the brim of the acetabulum. Three small arteries were ligatured. One suture was put into the lower part of the wound, and the whole dressed with wet lint. The limb was put up on a long splint, bracketed over the wound, but the leg could not be quite straightened, owing to the contraction of the hamstring tendons.

14th.—The patient's general health seems better; he is cheerful, and takes his food with relish. The discharge from the wound is profuse, but healthy. The ligatures came away on the third day, the suture on the first. To-day, the splint was re-applied, the child being previously put under the influence of chloroform, which easily affects him, but makes him feel sick all the rest of the day, and his head throb severely.

21st.—The boy is improving slightly in general condition; the discharge is profuse; a small collection of pus was let out close to the *wound;* the splint was re-applied. The leg is now quite straight, the rigidity of the hamstring tendons apparently having been due merely to confinement in bed. Charcoal poultices have been used from the day following the operation, and are to be continued.

28th.—The boy has greatly improved since last report. He sits up in bed, takes his food well, and the discharge is but trifling, the wound looking clear and granulating healthily.

I have thus endeavoured, gentlemen, to point out to you that there are three distinct forms of hip-joint disease, one commencing in the soft structures of the joint, the other in the pelvic bones, and the third in the femur. This division is founded in Nature, as I have had frequent opportunities of showing you in the wards, and as will be seen by the cases I have just brought before you, and it has an important practical bearing on the operation of excision, which is unnecessary in the first variety of the disease, improper in the second, and only requisite in the third, in those instances in which Nature fails to effect a cure.

The operation of excision of the hip-joint, or more properly of the head of the femur—for the whole of the joint, that is to say, the cavity of the acetabulum, as well as the head of the femur, can never be removed—is a simple one. It consists in making an oblique T-shaped incision over the dislocated head of the bone, clearing this of the surrounding soft parts, turning it out by adducting and pushing back the thigh, and then removing it either with a saw or cutting pliers. I have used both in these operations, but prefer the saw. In the last case, in which I lately operated, I found great advantage from the saw invented by an excellent Dublin surgeon, Mr. Butcher, the blade of which was passed behind the bone, and then being turned by a screw in a horizontal direction, readily removed the head and trochanters.

The principle on which excision of the head of the femur is practised is twofold: first to remove a mass of carious bone, which, by its irritation, keeps up hectic, and will ultimately destroy the life of the patient; and secondly, by taking away carious bone that is insusceptible of anchylosis, to establish firm union between the clean cut surface of healthy bone and the side of the pelvis, and thus restore a useful limb to the patient.

In excising a carious head of the femur, the first object we have in view is the preservation of the patient's life. It is a rule in surgery, that whenever a patient's strength is being worn out by the hectic consequent on suppuration resulting from carious bone, the cause of the constitutional disturbance, the diseased osseous tissue, should, if possible, be removed. It is, therefore, as much in accordance with sound surgery to remove the carious head of the thigh-bone, when its presence is threatening the patient's life, as it is to amputate for caries of the tarsal bones, or to excise a diseased elbow, under similar circumstances. In fact, in extreme cases of *femoral* coxalgia, the surgeon has to choose between standing by inactively and seeing his patient gradually sink exhausted by the suppuration resulting from the diseased head of the femur, or, by excising this carious structure, removing the cause of the wasting discharge, and thus averting a fatal termination. It is true that there would be another alternative—viz., amputation at the hip-joint, but I am not aware that the most strenuous opponent of excision of the hip has ventured to advocate such a proceeding in preference to the operation we have been discussing.

There is, however, another object besides saving the patient's life, to be attained by excision of the head of the femur. It is the restoration of a tolerably useful though necessarily a shortened limb. The shortening of the limb that is left is not, however, the result of the operation; it has already taken place as a consequence of dislocation on to the dorsum ilii before the head of the bone is removed. As a small portion of the upper end of the femur merely is excised, never more than what projects beyond the acetabulum, the already existing diminution in length is not increased by the operation.

After the operation, the limb should be put on a long splint, bracketed opposite the wound. No perineal band should be applied to the injured side, but the splint may be connected with one attached to a leather case put round the sound thigh, from which extension is to be made.

Clinical Lecture
ON
HÆMATURIA AFTER SCARLET FEVER.

By W. R. BASHAM, M.D.,

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GENTLEMEN,—Hæmaturia after scarlet fever is no uncommon occurrence; it is always associated with more or less of general dropsy, with a pasty, spanæmic appearance of the surface of the body. In the great majority of cases, it is a morbid condition, perfectly manageable, quickly yielding to judicious treatment, and only in exceptional cases either leading to, or associated with, permanent and organic mischief of the kidneys.

A question of much pathological interest arises out of the study of these cases—namely, whether the congested or impeded state of the circulation in the kidneys is mainly dependent on arrested cutaneous function during the desquamation of the cuticle; or is it evidence of the imperfect elimination of the febrile poison during the eruptive stage, and therefore a sequel to the completion thereof through these emunctories—the kidneys. From whichever point of view we study these symptoms, the condition of the kidneys is that of inflammatory congestion, and the impeded renal function demands the same remedial measures.

Of the many cases of hæmaturia and dropsy after scarlet fever that come under treatment, some have had the exanthematous fever most unfavourably, and its characteristic stages have been well marked, but during convalescence have been incautiously exposed, and the proper precautions, with respect to clothing at that period, have been neglected. In these there is some show of probability that arrested cutaneous function may suffice to explain the sequelæ of dropsy and bloody urine. But, in the vast majority of cases, this secondary condition must be accepted as evidence of the imperfect elimination of the febrile poison during the antecedent exanthematous stage, arising either from the greater intensity of the poison, or the incompleteness of the processes by which it is released from or decomposed in the system.

The amount and duration of the hæmaturia, as a secondary affection after scarlet fever, is very variable. In some cases the renal hæmorrhage is abundant, and gives to the urine, for some consecutive days, a marked blood-red appearance; in others, the presence of blood is scarcely recognised, except by a certain dusky appearance, as if a few grains of soot had been added to the urine. Nevertheless, whether the hæmorrhage be trifling or abundant, there is always at the commencement of this supplemental stage evidence of more or less febrile disturbance, clearly expressing the inflammatory nature of this secondary process. Anasarca of greater or less degree of the whole surface of the body, sometimes with, more often without, serous accumulations in the abdominal cavity accompanies, most frequently precedes, the hæmaturia. The pale, pasty, spanæmic aspect of the patient is also very expressive of this disorder.

Such are the chief characteristics of the hæmaturia, or secondary renal affection following scarlet fever; and the case of John D——, ten years of age, admitted into Burdett ward, in August, 1855, illustrates, in a marked manner, these preliminary remarks. This child had scarlet fever the first week in August, and from the mother's description, the eruptive stage was passed favourably, there being however troublesome sore-throat, with external swelling of the neck. By the 14th of August, however, he appears to have been quite well. A few days since, however, his face and eye-lids were noticed to be swollen in the morning; and, on admission, the following symptoms were recorded:—The whole surface of the body is anasarcous, more evident in the face and hands and wrists, feet and ankles, than on the trunk; the abdomen is distended, dull on percussion at the flanks, and affords evidence of fluid by succussion. The temperature of the skin is higher than natural; the pulse is small and frequent; the tongue pale and furred; the chest affords no evidence of disturbed function. The urine which has passed since admission is of a dark, blood-red colour, highly albuminous by heat; and the sediment, under the microscope, exhibiting abundance of large-sized fibrinous casts, entangling blood-discs and many free corpuscles. The little patient complains of thirst, loss of appetite, and urgent aching pains across the loins. The lumbar spaces are painful on making deep-seated pressure. He was ordered to be cupped to six ounces from the loins; to take half a drachm of the compound jalap powder; to have a warm-bath each night; and to have the diaphoretic mixture every four hours, the action of which was to be promoted by the child being clothed in flannel. The little fellow bore the cupping without flinching or crying; and two days afterwards we find the swelling in the abdomen greatly reduced, and the general anasarca of the surface diminished. There is less heat of skin; the pulse is fuller and slower; there is no thirst; the tongue is clean; and there is some desire for food. But the urine is still highly charged with blood; and the pain across the loins remains much about the same. Brisk purging with the jalap and cream of tartar was continued; and by the end of the week a very manifest improvement became apparent. The amount of urine began to augment in quantity, so soon as the action of the purgative ceased; but the hæmaturia continued, although less abundant. He was now dry-cupped over the loins, and with considerable and immediate relief, indicated by the abatement of the pain, and the clearer and more natural appearance of the urine. Its specific gravity was ascertained to be 1·016. The dropsy by the tenth day from admission had nearly disappeared; the abdomen was natural and free from any indication of fluid; and the only vestige of the anasarca was some slight puffiness of the eyelids in the morning. The heart had been examined from time to time, and found free from any murmur. The urine at this period, under the microscope, showed fibrinous casts, with a few epithelial cells entangled therein; there were also a few scattered blood-discs. The appearance is well illustrated in a drawing made at the time: the casts are all large-sized, very granular, and within this mould, as it were, are many epithelial cells. Another drawing was made from the examination of the urine, when the child was first admitted, and there the casts are of the same character, with this difference, in these latter only blood discs are visible; none of the granular epithelial cells of the tubes are visible; so that it would appear that, in the early stage, the microscope reveals a state of simple hæmorrhage, the casts of the tubes being the blood coagulated within them. Later in the disease an exudation of the epithelium of the tubes becomes abundant, and may, if unchecked, lead to serious embarrassment of the renal function, and permanent organic mischief in the kidney. With good management, however, this condition may be averted.

By the fourteenth day material improvement had been effected; all traces of dropsy had disappeared. The appetite was good; no thirst; amount of urine natural, but it was still albuminous. There was, however, that peculiar pallid look, that evidence of an impoverished state of the blood which is so universal in this disease, and which tells so forcibly of the morbid agencies that, from the primary exanthematous fever to the secondary febrile state with renal hæmorrhage, had been continuously deteriorating this *fluid* in its most important constituent of red globules, that the propriety and even necessity for the administration of chalybeate medicines must be apparent. He first took the citrate of iron; but a week afterwards the urine continuing albuminous, and the microscope still exhibiting blood discs and fibrinous casts, this form was changed for the tincture of the sesquichloride, which he took for a fortnight in ten-minim doses. It cannot but have been remarked by you how rapidly the child improved in appearance; how soon, after taking this most valuable of all the preparations of iron, his countenance and the surface of the body generally indicated an improved quality in the circulating fluid. Before he left the hospital we had the satisfaction of finding that the urine was quite free from albumen, and that beyond a few isolated and scattered epithelial cells the urine presented no morbid state under the microscope.

I have only a few words to add respecting the period at which in these cases it is proper to put the patient on steel medicines. Your best guide is the presence or absence of febrile disturbance; so long as there is thirst, anorexia, a quick pulse, and hot skin, febrifuge medicines and local depletion are clearly indicated; but with the subsidence of these, no time should be lost before the influence of ferruginous remedies should be tried, and generally in these cases of renal hæmorrhage and albuminous urine you will find the sesquichloride the most efficacious and best adapted for this class of disorders.

This case has illustrated the chief features, both of symptoms and treatment, of the hæmaturia and dropsy after scarlet fever. They may be summed up as follows:—Anasarca of the surface, ascites, scanty urine, renal hæmorrhage, albuminous urine, with symptoms of febrile disturbance. The principles of treatment were to alleviate the local congestion and impeded function of the kidney; to lessen the febrile excitement; to promote the action of the skin; and for a time, while the inflammatory congestion of the kidneys continued, to husband the renal function, and by active hydragogue purges to cleanse the system of the accumulated fluid which the embarrassed kidneys were inadequate to excrete; and lastly, when these results had been favourably accomplished, to supply the functions of assimilation with a constituent all important to the impoverished blood, and which, co-operating with animal food and well-regulated diet, soon carried the little patient to a satisfactory convalescence.

Original Papers.

ON THE PROGNOSIS IN APNŒA (OR ASPHYXIA).

By Marshall Hall, M.D., F.R.S.;

OF THE INSTITUTE OF FRANCE; ETC., ETC.

To the Editor of The Lancet.

Sir,—The prognosis in Apnœa (or Asphyxia) depends upon three elements:

First, the physiological *Constitution* of the subject;

Secondly, the *Stage* of the Apnœa (or Asphyxia);

Thirdly, the *Promptitude* with which the chief remedies, Respiration, or Pronation and Rotation, are administered.

The physiological Constitution of the new-born Infant is that of low stimulus and of high irritability. The respiration is, in fact, the respiration, so to speak, of the fish tribes, the placenta representing the bronchiæ; and even of the lowest of these, the extent of surface of that placenta, compared with the magnitude of the animal, being considered.

But the duration of life in Apnœa is in the inverse proportion of the quantity of respiration; that is, the less the degree of respiration, the longer its suppression can be sustained without the extinction of life. The *same* hibernant animal lives a longer or a shorter time submerged under water, just according to the degree of hibernation, with its low respiration, in which it may be placed, and dies more promptly as that hibernation is exchanged for activity with *its* high respiration.

The degree of respiration is always linked with proportionate circulation—as effect is linked with its cause—or as supply is linked with demand. The quicker the circulation, the quicker the formation and elimination of carbonic acid or *blood-*poison, but the ordinary *excitant* of respiration, the degree of *necessity* for its elimination being in the same proportion. Hence the destructive tendency of the *warm-bath*, in the ordinary sense of this phrase, for I do not now speak of the *sudden and momentary hot-bath* (which may prove an excitant of respiration), but of the ordinary *continued* warm-bath, which, if it accomplish anything, augments the circulation, respiration being still in abeyance; with this augmented circulation, there is augmented formation of the blood-poison, carbonic acid, and this being *retained*, proves a "choke-damp," and, in a word, destroys life. Now the warm-bath, at the Royal Humane Society's Receiving-house, has been a *warm*-bath, and has usually been continued during twenty minutes.

But to return to the *practical* object of this paper, which will be found, as ever, to coincide with *theory* (so commonly and ignorantly decried),—the new-born infant is a creature of the *lowest* degree of respiration. Its life, and the hope of its restoration in Apnœa, is—the *longest*. I believe that, in almost every case of the Apnœa of the still-born, the success of the Ready Method will be complete. For the same reason, the application of this method should be *the most persevering*.

In regard to the *stages* of Apnœa (or Asphyxia), I may observe that there are most distinctly *four:*

The *first* is that in which the breathing is not quite extinct;

The *second*, that in which the respiration has ceased, but may be *excited* by those means which I have so distinctly pointed out on various occasions;

The *third*, that in which respiration has not only ceased, but is *in-excitable*, and in which therefore our *hope* of resuscitation is in *imitating* or *inducing* the respiratory movements,—that is, in *Pronation* and *Semi-Rotation;*

The *fourth* and last stage is that of true *Asphyxia*,—that in which not only all respiration, but all *pulsation* has ceased, and with it *almost* all hope, or, as Sir B. C. Brodie says, so emphatically, all hope entirely: "*If that action of the heart by which the circulation is maintained should cease, as a consequence of the suspension of respiration, it can never be restored. This I positively assert, after having made it the subject of a very careful investigation.*" *

In the cases of the drowned or the strangulated, the patient may come under our notice in any one of these stages, or in any prior, posterior, or intermediate condition.

The course of *this* Apnœa or Asphyxia is extremely short; *four* or *five* minutes of complete submersion are supposed to be hopelessly fatal. In a given case, the hope is precisely commensurate with the *promptitude* with which this treatment is applied. Certainly the plan, or rules, recently proposed to the Royal Humane Society to be adopted *before* the Ready Method—that is, *the time lost* in these doings would extinguish all chance, all hope, and therefore *all fair and honest trial of that method;* and I trust that that Society will, for its own honour and credit, reject all such insidious proposals.

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* Lectures on Pathology and Surgery; 1846; p. 81.

The *moment* we see the drowned patient, we should *observe*, for a moment, whether there be respiration, and if so *wait* and still *observe* carefully, if breathing continue, be careful of interfering, and, constantly watching, direct the wet garments to be removed and the limbs to be rubbed, dried, and clothed as promptly as possible, every-one contributing some article of clothing.

But if the breathing has ceased; if there be real apnœa, then without any delay of any kind, we should enforce, *at once*, *the best measures*, and those are already demonstrated to be—those of the Ready Method, *unpostponed*.

I regard the new Rules lately proposed to the Royal Humane Society as unfair towards the Ready Method, and as fatal to the patient. I believe it to be absolutely *impossible* that any asphyxiated patient should *so survive* the *preliminary* measures proposed in those Rules, as to be subsequently recovered, or *recoverable*, by that method, or *any* method.

The prognosis, in cases of drowning, &c., is made up of three elements: 1. The *stage* of the affection; 2. The *promptitude* of the treatment; 3. The *adequacy* of the remedies.

In the cases of Apnœa from *Chloroform*, since the *dawn* of the affection will be observed, and the *just* mode of treatment adopted *instantly and on the spot*, I hope for great if not universal success!

It must be remembered, however, that the effects of chloroform are not pure Apnœa or Asphyxia; that there is the poison of chloroform itself to be eliminated from the system.

The same observations apply to this subject, in a minor degree, as to the effects of the narcotic poisons, of which I treated in a recent number of THE LANCET, and of the success of which an interesting instance has recently appeared in that journal.

In concluding this paper and series of papers, I wish briefly but distinctly, to notice the chief practical points in regard to the treatment of apnœa (or asphyxia):—

1. It is obvious to all unsophisticated persons that the effects of

Suspended Respiration,

by whatever cause, are only to be removed by the

Restoration of Respiration.

2. It is proved by experiment on the dead subject that respiration is effected by the

Pronation, and
Rotation of the body, with pressure duly applied and removed.

3. The special remedy for apnœa (or asphyxia), then, is this

Postural Respiration.

4. Other subsidiary and supplementary remedies may be added. These are—the means of *exciting* respiration physiologically; as

   1. Irritation of the nostrils or fauces;
   2. Excitation of the cutaneous excitor nerves of respiration, by dashing
      1. Cold water on the face or surface, previously rubbed warm; or
      2. Cold and hot water alternately.

And the means of improving the circulation, viz.—

Rubbing the limbs *upwards* with *energy*, so inducing warmth, and promoting the circulation, respiration existing.

5. Some remedies formerly used are without efficacy, but not without danger.

   1. The *first* of these is, the *warm bath*, without respiration;
   2. The *second*, all attempts at inducing artificial respiration otherwise than in

The Prone Position.

Warmth shortens life in apnœa; fluids in the throat are apt to be driven or drawn into the *windpipe* in the supine position.

Recapitulation and Conclusions in regard to Artificial Respiration.

1. In the majority of cases it is impossible, by applying and removing pressure to and from the sternum and ribs, to induce *ex*piration and *inspira*tion, the body being in the *supine* position;

2. In some cases the application of the pressure in this position induces a little *gurgling expira*tion, *no in*spiration occurring on its removal;

3. In one case, where it seemed impossible to induce expiration by making pressure, respiration became possible after applying pressure with some degree of violence; some obstacle had been removed: was it the tongue, which had fallen backwards, and which had been replaced by the impulse of the expired air?

4. In one case the epiglottis was found, on examination, pressing against the posterior part of the pharynx so as to obstruct the entrance into the windpipe;

5. In numerous cases fluids, either present in the mouth or regurgitated from the stomach, were found to obstruct the entrance into the air-passages;

6. We can, therefore, never be confident of being able to induce respiratory movements in any but the *prone* position, or position approaching the prone;

7. Nay, we never can be assured that in attempting to induce respiration in the *supine* position, we do not force foreign matters into the trachea, and so *destroy the patient;*

8. The same danger attends all other positions, however slightly inclined towards the supine;

9. In the *prone* position, the means recently proposed to accomplish respiration—viz., *alternate*

pronation with dorsal pressure, and the removal of that pressure and rotation—HAVE NEVER FAILED, although our experiments have been almost innumerable;

10. It is plain that in the *prone* position the tongue tends to fall forwards, and all fluids flow from the pharynx and mouth, leaving the entrance to the larynx FREE;

11. It is demonstrated by our experiments, that when the subject is laid prone, the pressure on the thorax and abdomen induces expiration, the degree of which is augmented by dorsal pressure, and that these phenomena are reversed on removing that double pressure and rotation;

12. Such manœuvres are *equivalent* to *respiration*, and respiration is the remedy for *Apnœa* (or Asphyxia): the conclusion is obvious.

13. All this can be said of no other mode of proceeding hitherto devised;

14. In the present state of our knowledge, then, *Pronation and Rotation*, as just explained, are *the* remedy for Apnœa (or Asphyxia);

15. But these measures must be administered *on the instant, on the spot, in the free air;*

16. All *delays*—and *all* other measures hitherto discovered and applied are delays: removal, the warm bath, galvanism—are *homicidal!*—a verdict which no authority, nothing short of such indubitable experiment, made by competent persons, as has *not* yet been made, can gainsay,

17. Continued cold, within physiological limits, prolongs life in the circumstances of Apnœa (or Asphyxia); continued warmth shortens it, and is therefore *opposed* to recovery, notwithstanding the place it has so long held among the rules for rescuing the drowned, &c.

18. Sudden cold and sudden heat, and especially the two alternately, are, on the contrary, *excitants of respiration*, and therefore remedies in the *first stage of Apnœa*, as I believe I was the first to demonstrate in regard to the *second* and *third* of those measures.

19. In general, nothing can be of more fatal tendency than the time lost in removal—the warm bath—galvanism;

20. In conclusion, I am compelled to say that I know of nothing in medicine so near *demonstration* as the proofs of the dangers of the former system, and of the simplicity, the safety, and the efficacy of the *Eupnœa* of the Ready Method.

February 18th, 1857.

NOTE ON THE FATAL CASE FROM CHLOROFORM.

By MARSHALL HALL, M.D., F.R.S.;

OF THE INSTITUTE OF FRANCE, ETC., ETC.

I do not think medical records contain anything more admirable for prompt candour and intrinsic value than Mr. Paget's case of a fatal result from the administration of chloroform. The case is as follows:—(I have marked in italics those words to which I would draw particular attention).

"The patient was a boy, nine years old, of delicate constitution, and of nervous, timid disposition; but with no indication of any organic disease, except that for which the operation was to be performed—namely, a tumour of the scapula; for which it was proposed to remove the greater part of that bone.

"At half-past eight A.M., on February 28th, after the patient had passed a night of sound sleep, the chloroform was first administered in a room adjoining that in which the operation was to be performed. He was alarmed at the thought of being put to sleep, and of what would then be done, and was very averse from taking chloroform, but he was persuaded to inhale it; and, though not without resistance, yet with less than is commonly made by patients of the same age, he was brought under its full influence in about three minutes. He sat in bed during the first few inspirations, and after these, was recumbent. It was observed that two or three deep inhalations were quickly followed by complete insensibility; and the next few inspirations were *stertorous*. He was at once carried, in the horizontal posture, into the room, and laid on the table arranged for the operation.

"Three or four minutes passed while we were arranging his position and his dress, and while I was pointing out to those who were to assist me in the proposed plan of operation. During this time the influence of the chloroform so far passed off, that he became sensible, displaced his coverings and pillows, said something expressive of discomfort, and vomited a small quantity of frothy fluid. (He had taken no food since the previous night, when he had had a good supper.) A very small quantity more of chloroform was slowly inhaled, and he became again nearly quiet, and was again placed on his side. I was on the point of commencing the operation, but as he again, by movements, indicated some degree of sensibility, and changed his posture, about forty drops more of chloroform were poured on cotton wool, inclosed in a fold of lint—an inhaler, with the chloroform on sponge, having been previously used. The lint was held, about half an inch from the face, by Mr. Thomas Smith, my usual assistant in operations. The patient inhaled lightly for a few times, then made one long inspiration, and appeared to pass at once into deep sleep. Except that he thus appeared to come suddenly under the full influence of chloroform, no external change was visible; but a few seconds later, his *pulse*, which had been carefully watched, and had been to this time normal, suddenly began to beat very quickly; then it *ceased* for two or three seconds; then beat rapidly for several times, with a kind of flickering movement; and then *ceased* to be perceptible.

"Just before this change of the pulse was observed, the chloroform had been withdrawn. The one deep inspiration was followed by a few *stertorous* breathings; but after these he breathed naturally, his complexion and features showed no change, he seemed only calmly asleep, and in this state he continued *breathing naturally*, and with no change in his appearance, but *pulseless* for at least a minute. Then his breathing became less frequent, and seemed as if it might soon cease; his face grew pale, and his lips were slightly livid.

"With the help of cold water sprinkled on his chest and face, and cold air blown on his face and throat, he was raised from this state of defective breathing in about two minutes, and again breathed deeply and freely, though slowly (probably about twelve times in the minute). He *thus breathed* for two or three minutes, and during this time the lips, and the pale or slightly vivid parts of the face, became pink again, and though *no pulse could be felt* at the wrists, the heart was heard acting. During this time also, some wine and brandy were poured into the mouth, and passed down the œsophagus, but without any evident movements of swallowing. His breathing again became gradually infrequent and feeble. Cold air and sprinkling with water, frictions and percussions of the chest, scarcely increased the breathing, and in less than two minutes it ceased. Artificial respiration, by the method of Dr. Marshall Hall, was immediately employed, and many times during the first five minutes of its employment the artificial inspiration obtained, when turning the body over to its side, was followed by a distinct, and sometimes even a full muscular (?) inspiration. But at the end of about five minutes these signs of life ceased, fæces escaped, and no more indications of life appeared, though the artificial breathing, the friction of the limbs, and other means for resuscitation, were continued for twenty or more minutes."

On reading this interesting case, I wrote to Mr. Paget, and, amongst others, my letter contained the following paragraph:

"My own idea is, that the case was not at all one of pure *apnœa*, or likely to be benefited by the induction of respiration. The *stertor* and other defects in breathing were obviously the effect of *narcotism* of the medulla oblongata. The absence of pulse seems to establish *asphyxia* not the result of apnœa. Of these and of final *sinking* the patient seems to have died, the *apnœa* being the general *result*—the *effect*, not the *cause*, of dying."

Mr. Paget's reply corroborates my view:—

"I fully agree with you as to the cause of death in the case I have recorded. If the poor boy's danger had been due to asphyxia (suffocation), I feel nearly sure that he would have been saved by your method of artificial respiration. I was struck with its equal facility and effectiveness as the remedy of ordinary asphyxia; but I felt while using it that the case was one in which it could do no more than secure that respiration should not be wanting if the heart should recover its power. My belief is, that from the time of the cessation of the pulse, though the heart could for some moments be heard acting, there was no current of blood, no true circulation; and that the boy ceased to breathe because his blood ceased to move."

These documents establish several new facts: first, that the efficiency of *postural* movements for inducing respiration is perfect; secondly, that, as there may be asphyxia the *effect* of apnœa, so there may be apnœa the *effect* of asphyxia; thirdly, that in the former case only, it is to be feared, can artificial respiration be of any efficacy.

March 17th, 1857.

ON THE INTRODUCTION OF IODOFORM INTO MEDICINAL USE.

CLAIM OF M. BOUCHARDAT.

By R. M. Glover, M.D., F.R.S.E., &c.

In the *Bulletin Général de Thérapeutique* for January 15th of the present year, there is a memoir on the therapeutic use of iodoform, with formulas. It is stated very properly, as a reason for employing iodoform, that it contains no less than nine-tenths of its weight of iodine, that very favourable results have been obtained from its use, and, finally, that the "learned Professor has endowed therapeutics with a precious agent." It is less with the view of putting in my own claims to the introduction of this interesting remedy than of again calling the attention of the profession to it that I now write. I have submitted more than once in silence, and seen others deck themselves in my plumes, but this is a somewhat special case, and besides, the practice is so common on the other side of the water, that it deserves a rebuke. There is not a single point in which I have not anticipated M. Bouchardat, except in the use of iodoform in cancer, where I firmly believe it will do more harm than good.

The first published notice of the singular physiological properties of iodoform is an account of an experiment on a dog, at which I assisted, published in Dr. Cogswell's work on Iodine, 1837. In the year 1842, in my paper on Bromine and its Compound, published in *Craigie's Journal*, there will be found a chapter on the Physiological Properties of Chloride and Bromide of Olefiant Gas, Chloroform, Bromoform, and Iodoform, with a note stating that I had used iodoform successfully, both internally and externally, in bronchocele, scrofulous enlargements, and skin diseases; and finally, in the April number of the *Edinburgh Monthly Journal*, 1848, there is a paper by me on the Physiological and Medicinal Properties of Iodoform, where I give a process for the preparation of this substance, the theoretical formula of its preparation, and practical directions for its use, with cases.

The *Bulletin de Thérapeutique* states that M. Bouchardat gets one-sixteenth of the weight of the iodine he employs in iodoform by his process. By mine, published in the *Edinburgh Monthly Journal*, I get, I find, one-eighth; and by both processes the excess of iodine of course admits of recovery. I say, "When we consider the constitution of iodoform, C_2 H, I_3, so that 13 grains of carbon and hydrogen in this body render about 380 grains of iodine *organic*—change the iodine from an inorganic to an organic substance, of the same nature as an acid secreted by animals (the formic), and possessing relations with alcohol and ether, an assimilable substance;" that, in short, such a body is likely, as well as from its analogy to chloroform, to possess extraordinary properties. The doses in which I recommended it were three grains, in pill, two or three times a day, chiefly in bronchocele and scrofula; externally, half a drachm or a drachm to the ounce of lard in skin diseases and tumours. The doses recommended by M. Bouchardat are nearly the same, except a strong external application to cancer, where I veritably believe it will do harm.

In the same article in the *Bulletin*, it is stated that a M. Rhigini, druggist at Oleggio, had found iodoform to be possessed of anæsthetic properties, but these much feebler than in the case of chloroform. In an article on Anæsthesia and Anæsthetic Agents in the *British and Foreign Medico-Chirurgical Review*, January, 1852, which was written by me, iodoform is classed amongst anæsthetic agents beside chloroform and bromoform: but it is stated, "Of the bodies analogous to chloroform, bromoform in all probability, and iodoform, certainly, are not sufficiently volatile." I must do THE LANCET the justice to say, that it noticed my paper on Iodoform, and called the attention of the profession to it. Now that my results have been confirmed by so distinguished a scientific man as M. Bouchardat, I hope parties may be induced to try the remedy in suitable cases. I may as well say, in case any one consults my paper, that at p. 579 of the *Monthly Journal* there is an erratum—H_8 for H.

Tavistock-place, April, 1857.

ON A CASE OF CANCER OF THE MAMMA REMOVED BY A PAINLESS METHOD.

By RICHARD BARWELL, ESQ., F. R. C. S.,

ASSISTANT-SURGEON TO THE CHARING-CROSS HOSPITAL.

FOR several years—that is, since 1852—I have been engaged in the study of cancerous diseases, chiefly with a view of finding some constitutional remedy on which reliance could be placed. The question of gradual removal comes naturally into consideration, and I have had such cases where the tumour bore every external character of carcinoma. In the accompanying example, however, all proofs as to the nature of the disease are so clear, so beyond doubt, that I believe the details will be interesting to the readers of THE LANCET.

The treatment adopted requires but few words of explanation. There are, besides the many mineral escharotics, several belonging to the vegetable kingdom, which have the advantage of painlessness; moreover, they hardly act on any but fungoid or lowly organized growths; such are, for instance, oak-bark, the sanguinaria canadiensis, &c., &c. In the case below reported, tannic acid was used, because a large surface of diseased growth was open to the action of any application, and because it was deemed advisable to use the least irritating even of vegetable escharotics. I must say that I have failed in finding any especial advantage in removing the tumour *en masse*, as insisted on by Mr. Haviland in THE LANCET of Feb. 14th. Canquoin's pastes, of which he uses the strongest form, are very painful, torturing in only a less degree than arsenical applications; their use has for some years been known and abandoned in all but a very few cases. The mere removal of a carcinomatous growth is very far from being a cure of the disease, and therefore with the local treatment was combined a remedy in which I have learned to place great reliance. I have found that chlorine, given either simply or in combination with soda, acts as a most powerful absorbent and tonic. The weakest and most worn-out system can bear it; it relieves the gastric irritation and rheumatic pains, so frequently the signs of commencing cancerous cachexia. Even in far advanced cases of uterine disease I have proved the value of this medicine, finding it followed by the above effects, and by a restoration of almost the healthy skin-colour. I hope soon to furnish some examples, wherein the action of this remedy will be fully shown. In the following case it was given in combination with soda (its weakest form), and was commenced in a very small dose, increased by five drops every third day.

M. H——, aged sixty-two, came to Mr. Canton at the Charing-cross Hospital, with a tumour in the right breast, on the 5th January, 1857. She has borne and suckled seven children, and suffered eight miscarriages; ceased menstruating at fifty. For some years past has been troubled with business difficulties; but about Christmas, 1854, more important family troubles deprived her of sleep and appetite; she lost flesh, and has since remained thin. In February, 1856,—that is, fourteen months after the commencement of these more serious anxieties,—she found by accident a hard lump, about the size of a marble, in the right breast. Up to last November this tumour remained passive, but at that time began to increase rapidly, and to give rise to sharp, darting pains. Mr. Canton seeing her on the 5th, pronounced the tumour scirrhus, and, knowing me interested in such, was kind enough to order her to return in a week, that I might have an opportunity of seeing the case. On the 12th January I saw her with Mr. Canton. She is rather tall and spare, with a worn look, slightly yellow tinge of complexion. The tumour, as large as a full-grown English walnut, was at the inner side of the breast, and a little below the level of the nipple. It was of stony hardness, without claw-like prolongations, smooth on the surface, and movable amongst the tissues. The skin was adherent over a space rather larger than a sixpence, and in the centre of this space was a small, dry scab, which, when removed, showed an ulcer, around which the skin was just beginning to wrinkle. Mr. Canton removed this tumour, together with a good deal of surrounding tissue. The wound bled considerably. Various styptics were used, and in about six hours the bleeding was arrested.

I took the tumour home with me for further examination. On cutting it in halves, it creaked under the knife, showed a pearly surface, with fibrous appearance. On pressure there oozed forth a white homogeneous juice, which emulsioned perfectly in water. A piece of tumour showed, under a magnifying power of three hundred diameters, fibrous matter in considerable quantities, and a large number of nucleated, binucleated, and nucleolated cells, with thin walls and irregular outline. Running round the tumour, in its substance, was a thin red vascular line, lost in the little ulcerated spot above mentioned. This appeared to me the first step towards softening.

Jan. 19th.—The wound has been going on well; but to-day it has assumed a somewhat suspicious appearance.

27th.—Mr. Canton was good enough to offer the future management of the case to me. I noted the following general and local appearances:—The skin had assumed a duller and yellower hue; the conjunctiva was of an ashen-green colour; the patient had a worn look; was dark under the eyes; had little appetite. There was a hard tumour, which partly enclosed the outer angle of the wound, and extended two inches beyond it, the growth measuring laterally nearly three inches; from top to bottom an inch and a half; the end of the wound cuts an angular slice out of this tumour, the cavity being lined with ragged tissue, some of which I clipped off, and, under the microscope, found it to consist of soft fibrinous matter, mixed with some such cells as above described, but chiefly with free and clustered nuclei with nucleoli. I applied, by means of a sable brush, a solution of tannic acid—one ounce of acid to half an ounce of water; and ordered her to take fifteen minims of the chlorinated soda solution, in water, three times a day.

On the following morning there was a thick white slough, which could be partially separated, so as again to allow of a free application of the acid. This escharotic was applied daily; it caused no pain; indeed, a throbbing, darting pain, which she had complained of at first, was soon greatly lessened; portions of slough separated occasionally from the mass, and were removed; and on the 10th of February, the whole dead tumour came away, eaving a pure granulating concave surface. Thus, in fourteen days, the diseased mass had been removed by a painless process. There remained, of course, a cavity to be filled up; but this was not large, because this application draws the sound parts so close round the slough, that they push it out further and further, so that the hollow is not as big as the tumour, which was removed from it.

On the 28th of February the wound had healed, without any induration; and the patient left the hospital, greatly improved in health, with a clear complexion, and without that peculiar dull ashen colour of the conjunctiva.

Old Burlington-street, March 1857.

NOTE ON THE USE OF CHLORIDE OF ZINC AS AN ESCHAROTIC IN A CASE OF MALIGNANT GROWTH OF THE SHOULDER-JOINT.

By William O'Connor, M.D.,

ASSISTANT PHYSICIAN TO THE ROYAL FREE HOSPITAL.

In The Lancet of February 14th, there is a communication from Dr. Haviland on the use of chloride of zinc in the treatment of cancer; in which, though Dr. Haviland does not claim any credit for originality in its use in such cases, he appears to do so in the mode of applying it. I do not seek to interfere in any way with Dr. Haviland or Mr. Moullin in the discussion between them, but simply forward you the following brief notice of a case which fell under my notice in the summer of 1844, in order to show that chloride of zinc was then used, and in nearly the same way as that mentioned by Dr. Haviland.

The case was that of a gentleman about thirty-six years of age, over six feet high, of sallow complexion and spare habit, but who had been before that rather full and muscular. When I was requested to see him, I found, on examination, that he had a large malignant growth on the left shoulder. It measured eighteen inches from the middle of the deltoid muscle to the root of the neck, and twenty-four inches from the clavicle to a little below the spine of the scapula. It was of a livid colour, permeated by large venous trunks, and yielded on pressure. The history I received was, that about two or three years before, he was attacked with what he considered severe rheumatic pains of the shoulder-joint, from which he suffered for some time, and for which he was attended by a Mr. Smyth, of Sackville-street, Piccadilly. Soon after, a small circumscribed tumour was discovered, occupying the upper part of the deltoid muscle, near to the acromion process. It became painful, and Sir Benjamin Brodie was consulted: he advised its removal. To this the patient objected at the time, and being obliged to go to Dublin on business, he sought the advice of Mr. Cusack, who gave a contrary opinion to Sir Benjamin Brodie.

Some time after his return to London I first saw the patient, and Mr. Lawrence, who had been before consulted, saw him with me. He agreed with Mr. Cusack, and said that any attempt to remove the tumour would not be successful. The late Mr. Aston Key was next called in, but he hesitated to adopt any plan of treatment until he had the opinion of Sir Benjamin Brodie, when, after a consultation, it was decided to have recourse to the removal of the growth by operation. This was accordingly attempted, but the tumour was so extensively attached to the scapula and clavicle, and the muscles surrounding the shoulder-joint, besides there being almost uncontrollable hæmorrhage, that the operation was abandoned, and the flaps replaced. In a day or two after, at another consultation, it was decided, at the suggestion of Sir Benjamin Brodie, to remove the tumour with chloride of zinc, which he had been in the habit of using for a long time. Preparatory to its use the integument was destroyed by the free application of the *potassa fusa*, and afterwards a paste composed of equal parts of chloride of zinc and flour was applied, and left on for some days, when a thick leathery layer of the tumour was removed. Similar applications were from time to time applied, until the whole of the tumour was destroyed, and there was left a large open surface with inverted edges, secreting an abundance of purulent matter, which it was impossible to heal, notwithstanding that suitable constitutional and local remedies were had recourse to. After a little time, the greater part of the chest, back, and front was covered with distinct prominences, resembling, according to the description, the original appearance of the large tumour; there was great expectoration, the patient became thinner, and in this state he left London to reside with his brother, who was then, as I understood, a brewer at Bristol, where he died in November of the same year, but I could not obtain any information regarding him after his departure from London. Probably, the case came under the notice of some of your Bristol readers.

Upper Montagu-street, April, 1857.

REPORT OF FOUR CASES OF LITHOTOMY.

By Jas. Mansell Moullin, Esq., M.R.C.S.,

SURGEON TO THE WESTBOURNE DISPENSARY.

Case 1.—C. E——, aged thirteen years, was brought by his mother to the Westbourne Dispensary, on the 6th of March. She gave the following history of the case:—When four months old he had measles very severely: immediately after the fever he became very fretful, always crying before and after passing urine, which became very dark-coloured, remaining so for two or three weeks at a time, off and on, staining his napkins the colour of coffee. She had medical advice for him, and he got better for a time, his symptoms invariably returning. This state of affairs was suffered to continue for upwards of twelve years, during which time she frequently had medical advice for him, and was invariably told that his sufferings depended upon weakness, and as he grew older he would get well. The pain after, and difficulty in, voiding his urine became worse, with constant pain along the penis, so that he was continually pulling himself about, and at times his screams were frightful. He could not bear the slightest motion; even change of posture caused excruciating pain, accompanied by much blood on micturating. He had long since given up playing with his school-fellows, and was looked upon as a helpless, hopeless cripple. His general appearance is that of a pale, delicate, strumous boy, greatly emaciated; the glands of his neck are enlarged; he looks careworn, and the picture of suffering and anxiety. His urine was highly acid, contained no albumen, but deposited a large quantity of mucus, upon cooling, which was the more easily seen when there was no blood in it.

Upon examination with the usual curved male sound, a calculus was readily detected, which, from his previous history, it was pretty evident had existed since his infancy. He was ordered to keep the recumbent posture, and to take one ounce of the following mixture, three times a day: Liquor of potassa, two drachms; tincture of hyoscyamus and sweet spirit of nitre, of each three drachms; camphor mixture and distilled water, of each three ounces; so as to allay the irritability of the bladder.

On the 10th, the symptoms having abated, the patient being placed under the influence of chloroform, I proceeded, assisted by my colleagues, to perform the usual lateral operation, when a large, very rough urate of ammonia calculus was easily removed. There was very little blood lost during the operation. On the ninth day, the urine began to flow by the urethra, and on the twentieth day from the operation the external wound was quite healed, and the patient discharged cured.

Case 2.—J. P——, aged three years and a half, was brought to the Westbourne Dispensary on the 17th of April, 1856, by his mother. She gave the following history of his case:—When eight months old he had measles, which left him very weak. Immediately upon recovery, he became very fretful both before and after voiding his urine. Six months after the measles, the whole family had typhus fever. This little boy lay for several days in a very precarious state, making a slow recovery. Ever since he does not seem to have grown in the same proportion as his brothers and sisters. During convalescence from this last attack of illness, his previous symptoms became much aggravated; constant pain in passing urine, the necessity for so doing becoming also more frequent. His mother consulted a neighbouring practitioner, who attributed his ailments to extreme weakness. His sufferings gradually increased, with much straining in the attempt to micturate; the rectum prolapsed to the extent of three inches. The pain was so severe that he would roll and toss about the bed for a considerable time before he could pass even the smallest quantity of urine, frequently accompanied with much blood. He was constantly pulling and pinching his glans penis, complaining of pain there. His urine was acid, of high specific gravity, but contained no albumen.

Having placed the little patient under the influence of chloroform, I proceeded to examine him in the usual manner, when a small calculus was readily detected. I ordered him to be put on milk diet, and to take one ounce of the following mixture three times a day, to allay pain and irritability:—Liquor of potassa, one drachm; sweet spirit of nitre, two drachms; Battley's sedative solution, one drachm: infusion of oranges to six ounces. On the 21st of April, the symptoms being somewhat modified, I proceeded to perform the usual lateral operation, the patient being under the influence of chloroform. I found it necessary to give the prolapsed rectum in charge of one of my colleagues, the protrusion being so large that it covered the required space for the external incision, and to return it was perfectly useless, as it would not be retained. A small urate of ammonia calculus (very rough), and weighing only seven grains, was easily removed. Very little blood was lost during the operation; the child had not a bad symptom. On the seventh day the water began to flow by the urethra, and on the seventeenth day the external wound was completely closed. Since the operation the rectum prolapsed but once, and that on the fourth day. It is surprising how rapidly this little patient's appearance improved after the operation, and he has since quite recovered the time lost.

Case 3.—W. H——, aged fourteen years, was brought by his father to the Westbourne Dispensary on the 23rd of June, suffering from all the symptoms of stone. The history of the case was as follows: About three years ago the whole family had scarlatina of a low typhoid type. This patient had rheumatic fever as a sequence, which reduced him very low. Immediately upon recovery he began to complain of dull, heavy pain across the loins, and constant pain in passing urine; the right testicle being very tender, and shooting pains occurring in the glans penis. One morning, to his surprise, while passing urine, the stream suddenly stopped, and after much straining he heard something rattle against the utensil, which was found to be the half of a small calculus, and the next morning he passed in like manner the other half. Within the last three years he had passed no less than thirty-three calculi at different times, sometimes as many as three in one week, and these too of very fair dimensions. He has been in hospital three times, for retention caused by impaction of a calculus, and each time relieved without operation. He is now suffering from all the symptoms of stone, and the poor fellow, from the constant voiding of these calculi, is fully aware of the presence of one in his bladder, but says it is much larger than any he has hitherto felt; he can feel it roll forwards when the bladder empties itself, but is sure it cannot enter his passage. On examination, a stone about the size of a filbert was readily felt. Having obtained the father's consent for an operation, I placed the patient on cod-liver oil, two drachms three times a day; citrate of potash, half a drachm, was also taken three times daily. The former to strengthen his constitution, and the latter to correct that extraordinary calculous diathesis. Three weeks from the commencement of the treatment his symptoms became more urgent, and in consultation with my colleagues it was thought advisable to operate at once. I therefore proceeded to perform the usual lateral operation, when an urate of ammonia calculus the size of a filbert was removed. The day previous to the operation he passed another calculus in two pieces. Very little blood was lost during the operation, and he made a rapid recovery. On the tenth day the urine began to flow by the urethra; on the thirteenth, none escaped by the wound; and on the nineteenth day from the operation he was discharged, cured. The cod-liver oil and citrate of potassa were steadily continued for some time after the operation, and up to this period (Feb. 14th, 1857) there has been no return.

Case 4.—C. T——, aged six years, was brought to me by his father in the beginning of July, 1856, suffering from all the symptoms of stone in the bladder, of three years' standing. The commencement of his ailments dated from his convalescence after scarlatina. He was a pale, delicate, ill-conditioned-looking child, with large prominent abdomen and very weak pulse. His urine was acid, its specific gravity about the natural standard, and contained no albumen; bladder irritable; and constant pain in the glans penis, much aggravated after passing urine. Upon sounding him in the usual manner, a calculus was readily detected. His state of health on admission not being considered favourable for the operation, he was ordered to take cod-liver oil three times a day. He soon improved in health under this treatment, and the bladder became less irritable. On August 9th, 1856, I proceeded to perform the usual lateral operation, the patient being placed under the influence of chloroform. Very little blood was lost during the operation, and a large urate of ammonia calculus was easily removed. On the eighth day the urine began to flow by the urethra, and on the fourteenth day from the operation the external wound was quite healed. Discharged, cured.

Remarks.—I wish to call attention to two or three points connected with these cases. When we take into account the frequency of calculous disorder amongst children, nearly *two-thirds* of the entire number of cases being children under fourteen years of age, and when we remember their liability to the eruptive fevers before the attainment of that age, the remarkable analogy which exists between these four cases of calculus, I think, will go to prove that that class of fevers is more frequently than has hitherto been supposed the origin of that formidable disorder, stone. The question, then, as to how far the formation of uric acid calculi, particularly amongst children, may be influenced by the eruptive fevers, becomes of great importance. It is now occupying my attention, and I hope soon to be able to place before the profession conclusive evidence as to the relation of exanthematous fevers to calculous disorder.

The operation adopted in the four cases just recorded, was that now universally practised by all operating surgeons. In the two first of the preceding operations, the button-headed bistoury was used for carrying the urethral incision onwards into the bladder; in the two last, the one knife alone was used. This latter method I much prefer, particularly when operating upon children; it has many advantages, and that of saving delay and confusion in changing the knife is not amongst the least. To a steady hand it is equally safe or safer than the other. What can be more simple than, when having opened the membranous portion of the urethra on the staff, gradually to depress the handle of the knife, so as to keep the point slightly upwards and prevent it slipping out of the groove, then to continue the incision the necessary length before withdrawing the knife, and thus to complete the cutting part of the operation? The opening into the bladder should be small, as small as possible. It is better to be obliged to make a second incision into the bladder than to make too large an opening at first. Mr. Martineau was well aware of that fact, and it was owing to that precaution that he attributed his great success, having lost only two patients out of eighty-four, upon whom he had operated. The opening when made should represent a cone, the apex being in the bladder. Great attention should also be paid to the position of the patient on the table; a firm bolster should be placed under his loins, so as to depress the pelvis as much as possible. In the after treatment, the patient should be placed in bed, with his pelvis slightly depressed, to allow the urine to flow freely. Some surgeons introduce a canùla into the bladder through the wound; others do not. Sir Benjamin Brodie recommends it in certain cases; the late Mr. Liston also used it. It has certain advantages, and I think ought to be invariably introduced for the first eight or twelve hours. In certain cases chloroform causes suppression of urine, as it does secretion of milk when used in labour. In such cases the wound becomes glued up with effused lymph, and plugged up internally by coagulum, so as to obstruct the flow of urine, which latter, when once established, the canula may be removed. In cases of hæmorrhage, small pieces of lint or sponge could be introduced around it, so as to arrest the bleeding. Small doses of opium are given to allay pain, and of all the preparations the solid opium is the best; the bowels are kept quiet; the parts kept clean by frequent daily ablutions; the knees are tied together to prevent motion; and the patient is ordered to be kept very quiet. This constitutes the sum total of an ordinary case. The surgeon cannot pay too much attention to the minutiæ of an operation; it is often to the strict observance of such details that he owes his success, and by far too often has he to deplore the loss of his patient by his neglecting these simple preparatory measures, which are the groundwork of all success.

Portchester-terrace North, Hyde Park, April, 1857.

ON PERMEATION OF GASES.—CARBONIC ACID A PROBABLE CAUSE OF DYSPNŒA IN EMPHYSEMA.—ASPHYXIA FROM EXPOSURE TO A CHARCOAL FIRE.—AMMONIA GIVEN AS AN ANTIDOTE.—RECOMMENDATION OF DR. MARSHALL HALL'S METHOD IN SUCH CASES.

By H. Osborn, Esq., L.R.C.P., &c., Southampton.

When a person has been exposed to the fumes of a charcoal fire, asphyxia may be produced either by carbonic acid or carbonic oxide. The former gas having a powerful affinity for ammonia, we may succeed in removing a portion of it from the lungs by means of that alkali; but if asphyxia be caused by carbonic oxide, ammonia would act only as a stimulant, but not as an antidote. In that case, Dr. Marshall Hall's valuable process for restoring suspended animation, might, in all probability, be advantageously adopted.

Some years since, I had an opportunity of trying ammonia in a case of asphyxia caused by exposure to the fumes of ignited charcoal. A baker had been engaged for some hours in his bakehouse over a charcoal fire, and fell down suddenly in a state of insensibility. I was sent for, and hearing the nature of the case, procured a bottle of a dilute solution of ammonia, free from carbonic acid of course. On my arrival, I found a man about twenty-seven years of age stretched upon his back, quite insensible; countenance pale, and somewhat shrunk. I poured a little of the ammonia on his tongue, and applied it to his nostrils. In less than a minute, he jumped up like one suddenly roused from a sound sleep, walked a few yards up the passage, and then fell back with a dead weight in the same state as I found him. I applied the ammonia as before, and he rallied again, but went off the third time, and afterwards recovered with no other treatment than the ammonial, and a little cold water which I gave him to drink.

In this case, no twitchings of the muscles were observable, and there was no irritation about the glottis exciting cough. When carbonic acid gas is disengaged from a lime-kiln, I believe no irritation of the glottis takes place, but a sense of oppression about the chest; and that arising from a charcoal fire causes constriction across the forehead, or a sensation of dryness about the throat—at least such are the early symptoms observed. But whenever I have accidentally inhaled carbonic acid disengaged from chalk by means of an acid, irritation of the glottis and cough are instantly produced. It would appear, then, that carbonic acid gas acts as an irritant in the cold state, but when its temperature is raised, no irritation is produced, thus rendering it more insidious.

This hypothesis may perhaps be applied to those who are subject to bronchitis, &c.: the cold carbonic acid contained in the atmosphere excites cough by respiring through the mouth, instead of through the nose. Nature has placed the nose in that position which causes the atmospheric air to absorb caloric before it reaches the delicate air-passage, but persons are apt to use the mouth instead of the nose for respiration, forgetting that the latter, and not the former, is the chimney for the lungs; hence the necessity of wearing respirators!

In cases of emphysema, we have carbonic acid accumulated in dilated bronchial tubes or air cells, producing no particular inconvenience while it remains in a quiescent state, but as soon as it begins to permeate the tissue in which it is enclosed, or make its escape through the natural outlet, dyspnœa may, in my opinion, be then partly attributable to the action of the excess of carbonic acid upon the muscles of the bronchi, similar to that which takes place upon the muscles of the glottis by inhalation.

Gases permeate all the tissues of the body; but according to Liebig, the gases of the stomach and intestines are not absorbed by the lymphatics or absorbents, but when their volume exceeds a certain point, they quit their position. Hence we may infer, that the gas contained in the dilated air-tubes cannot remain stagnant for any length of time, being constantly subjected to pressure, especially during every increased respiratory effort, when permeation would necessarily take place. Carbonic acid is always present in the intestines, and here it may act as a natural stimulant in defecation, but an excess of it may probably act as an irritant on the muscular coats, causing undue contraction, or dilatation by pressure, when constipation is present.

Of all the gases which are generated in the intestines, sulphuretted hydrogen is the most formidable the medical practitioner has to contend against. It is said to be always present in the small intestines, but this I doubt; in the colon, however, it is generally present in a gaseous state, or in combination with ammonia, forming a highly poisonous liquid gas. In this form, it is liable to be taken up by the bloodvessels even when diarrhœa is present, but in the gaseous state constipation may be necessary for fermentation.

I have endeavoured to prove, by watching my patients, what symptoms would indicate the absorption of this gas in the blood, and by contrasting symptoms produced by inhalation through the lungs, I have often come to the conclusion, that great prostration, throbbing of the temples, a state of drowsiness, &c., may sometimes lead us to suspect what is taking place. The antidotes are calomel or nitric acid. The organic salts and alkalies appear to favour, while the sulphates seem to retard, the absorption of the gas—judging, however, from observation of symptoms and experiments by testing the motions.

Southampton, March, 1857.

ON A CASE OF GONORRHŒA OF THE NOSE.

By A. M. Edwards, Esq., F.R.C.S.E.,

DEMONSTRATOR OF ANATOMY IN THE UNIVERSITY OF EDINBURGH.

As I have never met with a similar case to the following, and cannot find one recorded, I forward it for insertion in The Lancet:—

A respectable widow, aged sixty-one, applied for relief at the New Town Dispensary, under the following circumstances:—Her whole face was swollen, especially the eyelids, nose, and upper lip. There was slight conjunctival congestion, and a small abscess pointed close to the left angle of the mouth. Her nose was extremely tender on pressure, the skin over it red, tense, and shining, with a few inflamed papillæ scattered over it. The upper lip was much enlarged, and its cutaneous surface excoriated, evidently from the irritating effect of a purulent fluid which flowed copiously from both nostrils. So tender were the parts that she scarcely ventured to wipe off this discharge, and kept her head hanging forwards so as to allow the matter to drip upon the floor. She described herself as much reduced in strength since the occurrence of the malady, which she accounted for by the fœtid odour of the discharge making her loathe all food. She came into the room supported on the arm of another woman. The patient's extreme emaciation and general appearance led me at first to suspect malignant disease, and, from the treatment prescribed, her former medical advisers seem to have been of that opinion also; but by dint of cross-examination, I ascertained that about six months previous to my seeing her she had been paid a visit by her son; he was at that time suffering from gonorrhœa, and he used a pocket-handkerchief to suspend his testicles. He left this handkerchief lying about his room, and she picked it up, and used it for her nose for two or three days. On the fifth day her left nostril felt hot, dry, and itchy, and soon began to discharge yellow matter; soon after the right nostril became similarly affected, and her eyes slightly inflamed. These symptoms were accompanied by headache, pains in the limbs, and shivering. She imagined at first she was suffering from a severe influenza; but finding the nose getting daily into a more disgusting condition, she consulted medical men, who prescribed various remedies.

This history being ascertained, the indications for treatment were clear. I opened the small abscess and ordered glycerine for the sore, upper lip and edges of the nostrils, which were to be syringed frequently with warm water; citrate of iron and quinine, in pills of two grains, thrice a day. Under this simple treatment the symptoms at once yielded, and a little myrrh lotion injected into the nostrils when the inflammation was abated stopped the discharge.

The son still suffers from a gleet.

Considering the frequent occurrence of gonorrhœa, and the filthy habits of many of the lower classes, it is surprising such cases as the above are not more frequent; but though I have met frequently with cases of conjunctival gonorrhœa, and now and then a purulent discharge from the nasal mucous membrane of patients with a gonorrhœa on them at the time, I never met with one produced in the nose of a second person, and before I saw this patient I had no idea such a cause could produce such serious effects.

Edinburgh, March, 1857.

ON TRAUMATIC GANGRENE.

By John Hawkes, Esq., M.R.C.S.E., Devizes.

In attempting to save a mortified limb from the knife, questions of great practical interest are wont to arise: first, as to the distance of time to which the operation may be safely deferred; secondly, the proper site for this, when it has been determined. Confining attention to that description known as traumatic gangrene, I will briefly consider the respective merits of two plans of treatment commonly pursued; one of which may be termed the prompt or primary operation, compared with the late or secondary.

It is, I believe, generally laid down by hospital surgeons, who are our chief authorities on this subject, that in order to secure safety to the patient a timely operation is necessary, and that when this has been performed the chances in his favour are considerably better than when it has been delayed. Speaking on this subject Mr. Stanley says, "The limb must be at once removed to afford the patient the least chance of life."

A boy, aged fifteen, was admitted into St. Bartholomew's Hospital, whose hand had been crushed in a printing machine. Three of the metacarpal bones were broken, and the soft parts seriously injured. In two or three days the fingers of that hand were quite black, the inflammation spreading up the elbow. The arm was amputated about the middle, the wound, after a little erysipelatous inflammation, suppurating freely. The erysipelas subsided, the wound granulated healthily, and the boy recovered. "Had I not operated," said Mr. Stanley, in a clinical lecture from which the above case is quoted, "the boy would certainly have died."

A healthy lad, aged ten, was admitted into a provincial hospital, with a severe laceration of the right hand, extending between the thumb and forefinger and across the palm. The margins of the wound were easily approximated, the hand supported on a splint, lightly bandaged, cold-water dressing applied, and the boy removed to bed. In twelve hours' time the thumb had become cold; in twenty-four hours the lips of the wound were found gaping, the adjacent parts flaccid and discoloured, a thin fetid fluid escaping on pressure, which gave great pain; thumb dark and livid; two fingers cold. In twelve hours more, mortification had spread across the palm; the fingers were now, like the thumb, livid and without sensation. Within the last few hours the patient had lost his natural healthy look; he was now pale and restless; pulse small and frequent, and odour from the part intolerable. Phlegmonous inflammation now appeared on the under surface of the fore-arm; there were redness and swelling, and the peculiar hard, brawny feel consequent on serous infiltration. A consultation was held, and, chiefly in consequence of the last-mentioned symptom, amputation was held inadmissible. The hand and forearm were therefore enveloped in a large poultice till the mortified members had come away, when, from the nature of the injury and the failing powers of the patient, it was judged expedient to remove the hand a little above the carpus, which was accordingly done, and the boy ultimately recovered. I thought at the time, and think still, that in this case the operation should have been performed much earlier, and consider the grounds for not operating hardly justifiable.

This brings us to the second point—the choice of site. Mr. Stanley says, in the case first cited, "It is not necessary to perform the amputation at a distance above the seat of inflammation; the incisions may safely be carried even through the inflamed part."

In the following case the danger of delay and the truth of the last remark are both exemplified:—

An old woman, aged sixty-eight, insane, sustained an injury to her right forearm in falling from a low stool. The exact nature of the injury was obscure, and the treatment adopted simply palliative. When I first saw her, about a week after, a dark patch not unlike ordinary ecchymosis was seen on the outer side, about three inches from the carpus. No crepitus or other sign of fracture could be discovered; the hand was kept prone, and attempts to move it caused pain. For two days the hand and forearm were supported on a straight splint, and the parts covered with spirit lotion. At the expiration of this period the livid hue and dusky mottling of incipient gangrene had gradually spread over a larger space; one or more vesications had formed, and the splint, having been repeatedly removed by the patient, was discontinued. In about two days more, during which no particular constitutional disturbance occurred, the mortification had crept over the under or anterior surface of the arm. The nails and fingers were now livid; the hand tumid, but retaining its natural warmth. Soft parts about the seat of the disease had assumed an angry, inflammatory blush; they were generally tender, œdematous, and brawny to the touch, appearances which extended for some inches above the condyles, and were now making rapid progress up the limb. Meanwhile the patient was losing ground; her aspect had become anxious and depressed; her pulse rapid, weak and intermitting eight or ten beats in the minute; it was evident she was sinking. I therefore removed the arm by the flap operation, amputating the humerus at its upper third, and carrying my incisions freely through parts already inflamed. Comparatively no blood was lost,—an important point in such a case,—and the patient, still under the influence of chloroform, was removed to bed. The pulse, that had been previously almost flickering, now regained its regular beat, and intermissions disappeared. The subsequent progress of the case afforded most encouraging proofs of the necessity for adopting a decided line of conduct in the treatment of traumatic gangrene.

Devizes, March, 1857.

SUCCESSFUL CASE OF HERNIOTOMY ON AN INFANT SEVEN WEEKS OLD.

By WILLIAM RAYNER, M.R.C.S., L.S.A., Uxbridge.

I KNOW not if the operation for strangulated hernia has ever been performed on so young a child before; but, should the following case be deemed of sufficient interest, I shall be glad to see it inserted in THE LANCET.

The child was born January 9th, 1857. It had been unwell two or three days, as was supposed, from inefficient action of the bowels, for which half a teaspoonful of castor oil was given on the evening of the 3d of March, soon after which it vomited what was thought to be bile, from its bright-yellow and fluid character. This continued during the night and following day until three o'clock, when my attention was called to it. I found that it had vomited, and still continued to vomit, stercoraceous matter; and a hernia of the right side strangulated, which I could not reduce. I proposed to operate, which, with the concurrence and assistance of my friend Mr. Warder, was effected in the usual manner. The wound was brought together by three stitches and cold-water dressing applied. The child was now restrained from the breast for some hours. At eight o'clock in the evening, on my visit, I found it had passed a copious motion. The breast was then given to it; and it daily progressed to its ultimate recovery, without any untoward symptom.

Uxbridge, March, 1857.

REPORT OF A CASE OF ABORTION.

By Thomas Miles Beale, M.R.C.S., &c.

LATE in the evening of Dec. 11th, I was called in great haste to visit Mrs. ——, mother of six children, who it was feared was going to have a miscarriage. On arriving at the patient's bedside, she stated that some trivial domestic circumstance had caused her to make some slight effort, and almost immediately afterwards she complained of pain, which was shortly accompanied with a great gush of perfectly clear fluid, some quarts in quantity. She had suffered for some weeks severe morning sickness, the menses had stopped, and she supposed herself between four and five months pregnant. She appeared in a highly nervous condition, frequently giving way to violent hysterical fits of crying. The pains were both frequent and severe, of a decided bearing-down character, and recurring so constantly as to leave only little intermission between them, and with each pain more water came away. Micturition had always been performed with ease and regularity. Abdominal examination afforded no information. There was no enlargement; slight pain only was complained of on pressure being made in the left iliac fossa; the uterus could not be felt. On a vaginal examination, the os was found low down in the anterior wall of the vagina, and apparently impervious. There were no signs of hæmorrhage. The following draught was then prescribed: Tincture of opium, aromatic spirit of ammonia, of each one drachm; camphor mixture, two ounces. Half to be taken immediately, and repeated if necessary. The horizontal position was enjoined, together with perfect quiet both of mind and body.

Dec. 12th.—The pains had nearly ceased; the discharge still continued, though less profuse; the hysterical cryings were more frequent and severe. Ordered, fœtid spirit of ammonia, half an ounce; tincture of hyoscyamus, tincture of cardamoms, of each, three drachms; camphor mixture, six ounces. An ounce to be taken every hour.

13th.—The hysterical paroxysms were much relieved, together with the other symptoms. Morning sickness being much complained of, she took some saline effervescing mixtures, with morphia, aromatic spirit of ammonia, and small doses of hydrocyanic acid; and a morphine draught at bedtime, want of sleep being distressing. These symptoms went on for some weeks. The pains would disappear *in toto* for some days, when the abdomen would commence and continue to enlarge, until the pains again coming on would diminish it to its normal size, by reproducing the discharge of fluid.

On the 24th of January (about six weeks from my first being called in), my immediate attendance was deemed necessary, as the pains had returned with greater force, and, coupled with the discharge which had existed so long, there now appeared for the first time some clots of blood. I at once made a vaginal examination, and found the os as nearly as may be in the same position as heretofore, rigid and unyielding still, though dilated sufficiently to admit the tip of my index-finger into the uterine cavity, when I could distinctly feel what appeared to resemble a very small bladder of fluid. After waiting some little time, the embryo, with membranes entire, was expelled, it proving to be not more than five or six weeks old. There was a considerable amount of hæmorrhage afterwards, but the pulse remained steady, as it had done from the commencement, and the patient soon recovered. The great peculiarities of the case arise from the length of time the embryo must have remained in utero after its being blighted, and the really immense amount of fluid (liquor amnii?) which was discharged—so profuse on each first recurrence of the pains as even to run through the bedding and deluge the floor beneath. It generally retained its pale straw colour, though towards the termination of the case it assumed a decided pinkish hue.

The case is rendered still more interesting and perplexing by the history of the patient's previous pregnancy, which, so far as can be learned from her, is, that during many months she was confined to her bed by a similar profuse discharge of water, together with some clots of blood, and a presumed embryo, yet at the end of utero-gestation she gave birth to a healthy fully-developed child, which is now living.

Hammersmith, March, 1857.

NOTES OF SOME CASES IN PRIVATE PRACTICE.

By Thomas Newham, Esq., M.R.C.S.

LATE SURGEON, ROYAL SUSSEX ARTILLERY.

IN presenting the notes of some few cases to the readers of The Lancet, I must claim their indulgence for the imperfect manner in which they are thrown together. I need scarcely plead, in extenuation of the faults, that the time of the medical practitioner in the country is often taken up in attending to a mass of trifling diseases, to which he is compelled to pay attention; that he has to traverse many miles of ground daily, thus giving rise to fatigue of body, and consequently of mind; so much so, that when the daily task is performed, he is only too glad to obtain repose, and to take advantage of every spare moment to seek "Nature's sweet restorer, balmy sleep."

Vastly different is the case with our metropolitan brethren, and those who are engaged in practice in large towns. With both, the work is more concentrated and more easily completed, and, in addition, they can refresh their memories by attendance upon hospitals, and other public buildings, seeing every variety of case, and having the valuable co-operation of other surgeons. In the country districts, moreover, the surgeon has to battle single-handed with disease, and oftentimes with almost invincible prejudice. He requires, not only a knowledge of his profession, but that knowledge must be combined with tact and a degree of shrewdness, so as to be able not only to manage the disease, but the patient also.

In these cases, it may be said that *all* the methods of treatment now in vogue have not been tried. Granted; and for several reasons: sometimes from want of sanction on the part of the friends; at others, when it would have been dangerous from the impossibility of watching the cases minutely, as in those where the chest has been implicated, and which, occurring as they did in numbers at one time, rendered it difficult to watch the remedies.

Before proceeding with my cases, I shall only draw the attention of the profession to one great stumblingblock which has been always before me since I began to think of private practice: this is, the opposition to the private, and especially the country, practitioner, exercising his own free will and judgment as to treatment of cases. He is thwarted in every way, both by patients and by friends, and this will account for the apparent mal-practice I have seen when connected with hospitals. I have frequently admitted cases, and have thought, "Well, this is curious treatment;" but now, I find that the surgeon cannot do as he pleases, and therefore arises the seeming want of skill. It is a lamentable fact that patients *will* loosen bandages in fractures—will *not* have abscesses opened, and deep-seated matter cut down on; and then, if the case does not turn out well, the unfortunate surgeon has to bear the onus of all the patient's misdoings.

Fresh from hospital practice of every kind, I confess that this appears the worst enemy one has to contend with—this prejudice and want of confidence. Where, then, is the remedy? Is it in endeavouring as much as possible to gain the confidence of those who employ you, and gently persuading them to follow your advice? or is it in saying, that unless they do as they are told, you give up the case? Of the two the former is the one most generally practised; and perhaps your readers will agree with me, that until some prejudices are cleared away, the public is not in a condition to bear the latter.

FEVER.

I may premise, that the cases cited have occurred in the practice of Mr. Denne; and the treatment pursued has been at all times in concert with him.

The foregoing very comprehensive title, is applied to a disease varying in its character with topographic situation, want of good drainage and cleanliness, habits of patients, season of the year at which it breaks out, and, I believe, above all, in the constant change taking place in the system. Nothing is more patent to the common observer than the different methods in which fever has *begun*, *ended*, and been *treated*, within the last ten years.

Within my small experience, the attack of fever has been highly inflammatory, with cerebral complications and delirium of a fierce character, only to be met by copious bleedings and severe antiphlogistic treatment, the recovery being generally rapid and almost unaided. Now, however, the case is different. To bleed, would be to consign your patient to an untimely end.

The attack of this dire enemy is (at present) more insidious; the strongest man is prostrated, the delirium is of a muttering and atonic character, and, consequently, the whole course of treatment has undergone a change, accommodating itself to the symptoms, which apparently depend on a complete change of system from that of former years. The best proof of this latter fact is, that both methods of treatment have been successful at different times.

The district comprised in Mr. Denne's practice, is situated in a large basin, surrounded by hills of moderate altitude. The surface of this basin is flat, and scantily supplied with water. The cottages of the poor (amongst whom fever is almost entirely prevalent) are badly situated, badly built, and badly drained. The rooms are low, and (in the case of the bed-room) without any ventilation, except by means of the window. In many instances, five or six persons sleep in one of these apartments; the privy is placed very near to the house, and sometimes over an open ditch running at the back of it. Connect these facts with large families oftentimes badly fed, and I think no one will deny that if fever does not break out, and annually carry off its victims, it is only prevented doing so by an over-ruling beneficent Power. Such, however, is the case. In one or other village, typhus is always present. When the poison has exhausted itself in one locality, it springs up in another at a short distance, and, I believe, is never absent altogether.

During the last four months, it has been our lot to see a large number of cases of common continued fever, generally merging into typhus. In one large village, every cottage (with one or two exceptions) has been the scene of its ravages;

and of its highly contagious character we have not entertained a doubt. Indeed, when the disease has broken out in other places, it has been traced to some labourer from the healthy village having had to work in the infected one, and to proceed home at night, thus carrying with him the seeds of poison. From the first village affected, fever was thus carried to the second, and was clearly traced to this origin.

The type of the disease was low, and the patient was attacked by what was frequently called a heavy cold,—that is, severe rigors, alternating with heat of a burning character; dryness of the mucous membrane of the nose, and injection of the conjunctivæ; in some instances there was severe diarrhœa, but generally constipation; the tongue coated with a thick creamy covering, excessively tremulous, and indented at the edges; pulse rapid and very small. These symptoms, added to total prostration of strength, and utter helplessness, were observed by us for the first four days. In favourable cases, a change now took place: the skin became moister; a copious secretion took place from the nose and eyes; the tongue began to clean at the tip, and the indented edges to become less so, while the organ was protruded with more steadiness. The urine at this stage was scanty, and of a clear bright-red colour, being voided with difficulty and pain. The bowels were relieved, the motion consisting of bile and scybalæ. In unfavourable cases, the skin continued hot and dry, with slight petechial eruption over the surface of the abdomen, the mucous membrane of the eyes and nose continued dry and injected; the tongue, without cleaning, was dry and brown; the urine scanty; pulse tremulous and more rapid, 100 in a minute; the intellect clouded; and the voice whispering in character. The state of prostration was extreme. These symptoms were rendered more dangerous in many cases by laxative diarrhœa, the motions being of a horribly offensive character.

Returning to the favourable cases. A change took place on the twelfth or fourteenth day from the first attack; the skin resumed its natural functions, in excess; the whole of the tip of the tongue became clean; there was slight diarrhœa, varied by solid motions; the pulse became firmer; the urine more copious, but loaded with brick-dust-like matter, which became freely deposited; the taste, before absent, returned; the eyes were bright and clear; and at a glance, we could perceive that the patient was safe.

At this period, the unfavourable cases presented a far different aspect. There was low muttering delirium; injected conjunctivæ; a brown dry tongue, refusing to clean; pulse 120 and very tremulous; colliquative diarrhœa; urine in very small quantity and ammoniacal; loss of command over the sphincters, with a peculiar odour from the breath, reminding one of commencing putrefaction. A dry, harsh, short cough was also present, without expectoration; and pneumonic inflammation had set in at the bases of the lungs. This state of things continuing, death closed the scene on the eighteenth to the twenty-first day from the first attack.

Treatment.—The evident disorder of the primæ viæ was met by a brisk emetic, and in cases where constipation was present by a saline purgative. In those patients where the attack commenced with diarrhœa, we found a small dose of castor oil of great service. It brought away copious motions of a solid and scybalous character, very offensive. This commencement was then followed up by a mixture composed of nitric spirit of ether, one drachm; bicarbonate of potass, one drachm; compound infusion of gentian, three ounces; water, three ounces; one ounce to be taken every fourth hour. Our reason for combining the tonic was the low type of the disease; and we found that unless this was done, typhoid symptoms rapidly developed themselves, causing no little trouble to us, and danger to the patient. In all cases of a favourable character this course of treatment was pursued, and we did not find that the febrile symptoms were increased by the tonic.

When, however, a typhoid state ensued, with all the worst features detailed above, we were obliged to have recourse to more powerful stimulants, such as compound spirit of ammonia, with sulphuric ether, and compound infusion of gentian, together with wine and brandy *ad libitum*; and when colliquative diarrhœa was present, the following powder was placed on the tongue every three or four hours:—Mercury with chalk, Dover's powder, of each ten grains, eight minims; divide into six powders. This rarely failed in arresting that dangerous symptom, and at the same time soothed the system, and produced sleep, and, whenever this was produced, the patient generally rallied, and progressed favourably.

The number of the cases treated amounted to about eighty, and the ages of the patients varied from one year to seventy; we did not observe that age exercised any effect upon the issue.

Three deaths occurred; in two patients from the first effects of the poison, from which no rallying took place; and in the third from pneumonia. In almost all, considerable swelling of the legs, face, and arms occurred on restoration to health, and at about six weeks from the appearance of the first symptoms. The urine at this time was clear and copious, and with no trace of albumen.

My remarks may be confined to one organ—namely, the tongue; and by this we were guided far more than by the pulse. I have said that on the first accession of the fever, this member was coated generally, not one spot being free. The first sign of amendment was in cleaning of the tip. If at this time we administered the tonic already mentioned, the coating became removed gradually from before backwards, in a semi-circular line, until the patient was in a fair way of recovery. When the case assumed an unfavourable aspect, the tongue (which had previously become slightly clean) was again coated, dry, and cracked.

When the patient was old, or very young, we not unfrequently administered wine and brandy even in the first stage, and with the effect of enabling the system to meet the severe stages of the disease. Judging from the whole number of cases, it may be laid down as a rule, that whenever the least portion of the tip of the tongue is clean you may with safety give tonics, watching them carefully, and not omitting them for any slight accession of the febrile attack.

I feel quite convinced that if the system of treatment by means of febrifuges is persisted in, during attacks of fever in the present day, the patient is lost; and my recent observations on this head confirm most strongly those I made some three or four years since, and published in THE LANCET at the time; and I repeat, that, after attending to the state of the primæ viæ for the first two or three days, if you wish to save your patients, and combat this disease successfully, you must introduce those remedies into the system which will enable it to meet, and defeat this insidious and typhoid poison.

NOTES ON THE BRUIT DE POT FÊLÉ.

BY RICHARD PAYNE COTTON, M.D., F.R.C.P.,

PHYSICIAN TO THE HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON.

THE diagnostic value of the *cracked-pot sound* has been variously estimated by different auscultators. Some have regarded it as certain evidence of a pulmonary cavity; others have connected it with a variety of very different diseased conditions; whilst some have even doubted its pathological significance.

This diversity amongst a number of observers, equally cautious, perhaps, and competent, finds, I believe, a ready explanation in the circumstance that all are not agreed as to the sound itself, certain percussion sounds being designated by some auscultators as bruit de pot fêlé, which, according to others, have no claim to such a title. Of this I have abundant evidence in the wards of the Consumption Hospital, where, upon a supposed instance of this sound, it is common enough to hear as many different opinions as there may chance to be listeners.

I might here state, as it were, parenthetically, that the cracked-pot sound is not the mere auscultatory refinement which some have been, and even still are, disposed to regard it. Not unfrequently it is a real and valuable auxiliary to diagnosis, coming to our aid where other physical signs are few and indistinct. It is a mistaken notion to suppose that other proof of the existence of pathological changes, sufficient to give rise to the bruit de pot fêlé, must be necessarily clear and unequivocal. Cases now and then occur, and I shall presently advert to them, in which this sound may be the sole reliable guide to the condition of the patient.

It would be unnecessary, even if it were possible, to describe the bruit de pot fêlé. It can, in truth, only be learned by the ear. To distinguish it is not, however, always so easy as is imagined; while, to elicit it clearly, attention to certain rules, as well as careful percussion is generally essential. The finger, which for this purpose is the best pleximeter, should, according to my experience, be firmly placed between the ribs, and the percussion stroke should be delivered sharply and quickly. The patient should be directed to open the mouth, and to look rather towards than away from the auscultator. Except in very rare instances, there is no bruit whilst the mouth is kept closed; and even when widely open, the sound is oftentimes not evident to the auscultator, if the patient's head be turned away from him. My attention was drawn to this latter peculiarity by observing that, in some cases, if a patient known to have a bruit de pot fêlé, happened, when under examination, to turn his face away from me, the sound became indistinct and sometimes even inaudible, whilst to a bystander on the other side it became more and more evident. The bruit often ceases to be heard after the first percussion stroke, and by no effort can it be reproduced until after an uncertain but sometimes considerable interval; occasionally it requires two or more strokes to produce this effect: but even when most fully developed it will generally be found that continued percussion fails to elicit it so distinctly as at first. The true cracked-pot sound is, to my ear, always suggestive of *emptiness*, associated with more or less *jarring and metallic* ringing.

Certain modifications of the percussion sound, which has been so happily termed *wooden*, not unfrequently bear a close resemblance to the cracked-pot sound; and to this circumstance may probably be attributed the uncertainty and variety of opinion with which the subject has been beset. So close, indeed, is their resemblance, that it oftentimes requires some amount of practical experience to distinguish them. The difference, however, between the two, is, I think, quite as apparent as it is important. The *wooden* sound will invariably be found to be more dull, more resisting, less jarring, and *free from the metallic ring* so characteristic of the other. Unlike the true bruit, it remains unaltered under repeated percussion; and although, perhaps, more fully developed when the mouth is open, its peculiar *quality* remains unchanged.

The pathological conditions giving rise to the variety of wooden sound which thus simulates the cracked-pot one are, partial consolidation of the pulmonary tissue, and pleural thickening, with contraction. The latter is, I believe, by far the most frequent cause of it. Perfectly solid matter, or *complete* consolidation of the pulmonary substance, is insufficient to give rise to it; there is always, when it exists, a more or less admixture of vesicular tissue, and to this circumstance the peculiarity of the note is evidently attributable.

I have never heard the true cracked-pot sound *as a pathological indication*, except in cases of pulmonary excavation. To my ear, the bruit is always (with the exception presently to be mentioned) the prophetic knell of the poor patient.

If the jarring wooden sound, which, as I have just stated, betrays other and very different conditions of disease, be still regarded as a cracked-pot sound, the subject must stand thus : we must admit varieties of the phenomenon, and must say that there is one kind indicative of pulmonary cavities, and other kinds peculiar to other diseases. It is, however, far better not to call any sound the bruit de pot fêlé which is not unmistakably so; and if this be adhered to, and if the ear be once familiarized with the true sound, it will, I am convinced, become an unerring guide to cavities in the lungs.

The only exceptions to such a rule exist occasionally in young subjects, even when in a healthy condition. Some years back, whilst percussing the chest of a child five years of age, apparently in excellent health, I was not a little surprised at eliciting a well-marked cracked-pot sound, undistinguishable from that of a large pulmonary cavity. Since then, I have carefully watched for the same phenomenon, and have met with it little less than a dozen times. It is most noticeable in children under or about the age of six years, although it is far from being limited to that period, for I once met with it highly developed in a boy twelve years old. I have never been able to produce it unless the child's mouth has been widely opened, and have invariably noticed that where it has been most evident the percussion-sound, whilst the mouth was closed, was of a resisting, jarring and *wooden* character, bearing, in fact, a strong resemblance to the wooden note already spoken of as mistakable for the cracked-pot sound. I have frequently noticed this jarring sound in the chests of children *unassociated with the bruit*, and believe it to be of very common occurrence; it is most evident whilst the mouth is kept open, and most frequently found in children with thin and flat chests. In emphysema, as well as in some cases of chronic bronchitis in young subjects, the bruit de pot fêlé is occasionally met with; under the latter, I have noticed it on three or four occasions, and a striking instance of it lately occurred to me in the person of a boy, thirteen years of age, affected with emphysema and chronic cough. I have also met with it in phthisical children, where, as is often the case, patches of tubercular lung have been surrounded by healthy but probably hypertrophous tissue.

The mechanism of the bruit de pot fêlé is not, perhaps, very easy of explanation. A peculiar condition of the thoracic wall is probably essential to its production, or it would be elicited in every instance of cavities of similar character known as favourable to its development, which is very far from being the case. Thinness, flatness, and flexibility of the corresponding parietes are favourable, if not necessary, to its existence. The cavity must be of some size, and must freely open into the bronchial passages. The smallest vomica in which I ever detected it, was afterwards ascertained to have been little larger than a pigeon's egg; but, as a general rule, the more extensive the cavity the more distinct the bruit. The sound seems to be produced by a sudden expulsion of the contained air, and reaches the auscultator chiefly through the patient's mouth; the former being proved by the necessity (except in very rare cases, where some peculiarity in the nasal opening would appear to answer the same purpose) of the mouth being opened; and the latter, by the frequency with which the sound escapes detection when the patient's face is turned away from the auscultator. The occasional occurrence of the bruit in healthy children lends additional force to such an explanation of the phenomenon. We have in children the thin thoracic wall and the free opening into the bronchial tubes. The comparative largeness of the pulmonary cells in early life, the great elasticity of the lung tissue, and the freedom of both respiratory acts, would indeed almost justify our regarding the chest of the child as a large pulmonary cavity. Such conditions of course vary in degree in different children; but it is not surprising that, where they are most developed, we should sometimes find the cracked-pot sound.

I have already stated that the bruit de pot fêlé is not unfrequently a useful aid to diagnosis. Being limited to the seat of its production, it will, in many instances, enable us to mark out the size and direction of the cavity. When vomicæ are very large, and so simulating many of the physical signs of pneumothorax that the one condition might readily be mistaken for the other—an occurrence which has several times presented itself to me at the Consumption Hospital,—the bruit de pot fêlé, should it exist, will serve at once to distinguish between them. None but *the inexperienced* in auscultation can affirm that a pulmonary cavity is always easy to detect. It happens now and then that the sibilant or sonorous rhonchi of an accompanying bronchitis completely mask the tubercular signs. In cases also of very chronic phthisis, especially in old persons, a cavity, although of some size, may easily escape detection, owing to the absence of secretion, combined with the old and elastic state of the walls giving rise to but few, if any, of the usual signs of such a condition. In cases like these,—and I can call to mind three or four such,—the cracked-pot sound may come to the rescue; I remember three cases in which it was the only thing which enabled me to declare with certainty that a vomica existed; and in all of these post-mortem examinations proved the accuracy of the conclusion. It is not therefore a mere refinement, but a sign which may not only be confirmatory of others, but may sometimes be used of itself as a means of diagnosis.

The following are the conclusions at which I have arrived:—

1. The true bruit de pot fêlé is, in the adult, a certain sign of pulmonary excavation.

2. It is occasionally met with in *healthy* children, as well as in young subjects affected with chronic bronchitis or emphysema. It is also sometimes to be found in phthisical children during the first stage of their disease.

3. It is easily and very frequently confounded with another percussion sound, which is indicative of very different pathological conditions.

Let me therefore plead for the old bruit de pot fêlé. It has often served me, and I am convinced may be useful to others. Let it not be thrown away as a vague and unmeaning sign; rather let its difficulties, if it seem to have any, be surmounted, that it may hold the position due to it amongst the physical evidences of disease.

Clarges-street, Piccadilly, April, 1857.

ON A SUCCESSFUL CASE OF CÆSARIAN SECTION.

By W. H. Thornton, M.D.

Having been asked to attend Anne N——, in her approaching confinement, I was sent for to see her first on Sunday, August, 31st, 1856. She has been married nearly three years, and has been pregnant once before, but miscarried at a very early period, being, as far as I can ascertain, not more than nine or ten weeks advanced in pregnancy, and suffered very severely at that time. I found her suffering from pain of an irregular character—principally seated in the abdomen. She had vomited several times. I made an examination per vaginam, and felt what I supposed to be the head presenting, covered by the uterus, and was unable to detect any dilatation, or satisfy myself as to the position, of the os uteri. I discovered that she was the subject of recto-vaginal fistula. I learnt that she had had delicate health for many years, and was subject to frequent attacks of vomiting previously to her marriage. Finding the pain had continued for several hours, considering the seat of it, and the want of any effect on the os uteri, and that the patient had usually an irritable stomach, I concluded it was of a spurious character, and accordingly administered about twenty-five drops of tincture of opium. I saw her next day, and found her free from pain, but labouring under irritation of the stomach, with vomiting; for which she was treated with considerable benefit. On September 4th, I was again sent for, in the night, and found her suffering from pain as before, and the same condition of parts on an examination per vaginam. I repeated the opiate draught, and left her. I saw her next day, and found her comfortable; and heard nothing more till the night between the 14th and 15th of September. I was then again summoned, and finding matters precisely as on previous occasions, I repeated the anodyne. On seeing her next day, I found her still vomiting, complaining of pain at the epigastrium, and also a fixed pain over the region of the right kidney. The pulse was increased in frequency; there was more thirst than usual; and some irritability of the bladder. I now suspected some mischief going on in the kidney; and treated her by the application of leeches over the region of that organ, and appropriate medicine. The leeches relieved the pain very much, the vomiting diminished, she passed urine more freely, and seemed better in every respect. She continued to improve, except that she had two very severe rigors; and on September 26th, I found there was pus in the urine. I now supposed there had been abscess connected with the kidney, and that the irritability of the stomach and delicate health which she had so long suffered from, were probably the result of chronic kidney disease. She was at this time down-stairs, able to go about, free from pain, and wished to discontinue taking medicine, which I acceded to. On September 30th, her husband called in the morning to say I was likely to be wanted; and I went to see her about ten A.M. I found her suffering from pains of moderate intensity, which had been going on during most of the past night; they came on regularly, and with perfect intermissions. The pain was now in the back as well as the abdomen. There had been some vomiting. On making an examination, I found, as I thought, the same condition of parts, except that there was more mucus now than I had ever found before, though still only in very small quantity; and as from the time she last menstruated, I thought it possible she was not quite at her full time, I repeated the opiate. I was again sent for about three P.M.; but being engaged at a coroner's inquest, I was unable to go till half-past seven P.M., when I found the opiate had not interfered with the pains, which now came on every five minutes, and were very severe. On examination per vaginam, I could find no alteration; and being satisfied there was either occlusion of the os uteri, or something else very uncommon, I requested my friend, Dr. Fearnley, to be sent for, who, on examination, thought that he could detect the swollen anterior lip of the uterus behind the pubes, that the os uteri was nearly fully dilated, that the mass which was felt was the child's head presenting, and that a little time would develope the case more clearly. Accordingly I waited till half-past ten P.M., when, in making an examination, I accidentally ruptured the membranes; but was unable again to find the place where they occurred. I again requested the attendance of Dr. Fearnley, and we again each examined per vaginam, and each, independently of the other, discovered that what we had mistaken for the head of the child, was in reality the promontory of the sacrum, so much enlarged by disease as to resemble the head of a full-sized child. We now found that the os uteri was very high up, close behind the pubes, dilated probably to about the size of a five-shilling piece, and we thought the child's head was presenting, but thrown quite forwards on the pubes. The recto-vaginal fistula evidently led up to the interior of the mass of diseased bone. The general appearance of the woman, as she was dressed, did not lead to any suspicion of lateral curvature of the spine, but on exposing the back this was found to be the case, though not to a great extent; and there was a bony projection to be observed over the sacrum externally. Considering that the upper conjugate diameter of the pelvis was little more than one inch and a half in length, with considerable approximation of the pubes, we determined that delivery by craniotomy could not be effected, and that the Cæsarian operation was the only resource. The case was now seen by three other practitioners—viz., Mr. Alfred Rhodes, Mr. G. S. Rhodes, and Mr. R. N. Halliwell; and as it was the unanimous opinion that craniotomy was impracticable, I proposed the Cæsarian section to the woman, who consented without any hesitation. The pains continued increasing in violence, without the slightest advance in the presenting part, up to four A.M., Oct. 1st, when I proceeded to operate in the following manner, being assisted by the gentlemen above named:—The patient, having emptied the bladder, was put fully under the influence of chloroform by Dr. Fearnley. I then made an incision, about six inches in length, from just below the navel to within an inch and a half of the pubes, immediately over the linea alba. One small artery was divided, requiring a ligature. The peritoneum, being exposed, was divided with a bistoury on a director, to nearly the same extent. There was some protrusion of the bowels on each side, which were pressed back by sponges dipped in oil. I then made an incision about four inches in length in the uterus, and immediately proceeded to extract the child without any difficulty, the back being towards the mother's abdomen, and the *breech* presenting towards the pelvis. As soon as the child was removed, there was a smart gush of uterine hæmorrhage, and I at once introduced the hand, and removed the placenta, which was partly detached. The child, which had not been felt to move for some hours, was dead. The uterus contracted directly, the bowels were pressed gently in, and the abdominal walls approximated. Four sutures were used to retain the parts in apposition, and the intermediate portions drawn together as evenly as possible by strips of adhesive plaster. A pad of lint over the wound, with a broad bandage, completed the dressing. No pain was evinced during the operation, except from the introduction of the sutures when the influence of the chloroform was beginning to pass off. The pulse was 100, and for a short time the patient seemed tolerably easy, but as the effects of the chloroform began to pass off, she became very restless and complained of great pain; but on watching her, it was evident that the pain depended on uterine contraction, as it had distinct intermissions. The pulse flagged several times, but rallied under the administration of brandy-and-water. She gradually became more sensible, complained much of the pain, and threw her arms about, evincing considerable impatience. Vomiting now came on, and recurred several times, but this was doubtless the result of the chloroform. She turned on to her side without assistance. I gave her forty minims of tincture of opium, part of which was rejected, and after a short time I gave her twenty minims more. This, being retained, had before long an evident effect in diminishing the pain, she gradually became more tranquil, and I left her at eight A.M.—Ten A.M.: Still moaning a good deal, but there had been no more vomiting, and she had kept tolerably quiet. Pulse 100, of moderate strength; countenance anxious.—One P.M.: Less moaning; seems more easy, and is getting more sensible; could scarcely comprehend that she was delivered. To have some sago gruel.—Eight P.M.; Pain less; has passed urine twice; no more vomiting; pulse 100, regular; some small clots discharged per vaginam; tongue furred in the centre, clean at the edges; quite sensible; countenance better; still a considerable amount of restlessness, and a troublesome cough. To have half a grain of acetate of morphia at bedtime.

Oct. 2nd.—Slept at intervals during the night; pains less; countenance good; tongue moist and clean at the edges; no thirst; pulse 100. Complains of some pain on the left side of the abdomen, increased on pressure. Passed urine again. Moderate discharge per vaginam, and also some thin discharge seems to have escaped freely from the opening left uncovered near the symphysis pubis. To have one grain of calomel and a quarter of a grain of opium every four hours, and the following mixture:—Bicarbonate of soda, one drachm and a half; nitric spirit of ether, two drachms; water, seven ounces and a half: one ounce to be taken every four hours.—Eight P.M.: Tenderness less on the left side; complains of more on the right side; uterine contractions less; pulse 108, regular. Taken sago-gruel frequently during the day.

3rd.—Slept at short intervals during the night; pulse 110; tongue much as yesterday. Passed flatus freely per anum; Tenderness less over abdomen; no rigors; bowels not relieved. Continue medicine.—Eight P.M.: Slept comfortably *this* afternoon, and feels much refreshed. Tenderness much less about the abdomen, and can move herself much more easily; pulse 100, regular, and more powerful; skin moist and warm; tongue as before; no thirst; passed more small clots per vaginam, and feels easier since; bowels not relieved; seems cheerful. Omit calomel and opium, and add half an ounce of syrup of white poppies to the mixture.

4th.—Has had a tolerable night; pulse 96, soft. In other respects much the same; discharge escapes freely through open part of wound near the pubes.—Eight P.M.: Complains of more pain immediately over the uterus; pulse 100, fuller; skin more dry; thirst increased; no rigors; no general tenderness over the abdomen; cough troublesome, which she says increases her pain; more clots passed per vaginam. Says she does not feel so well to-night as in the morning. A large linseed poultice to abdomen. Half a grain of morphia at bedtime, and a grain and a half of calomel every four hours.

5th.—Had a good night; pulse 100; tongue cleaner; countenance good; lochial discharge continues in moderate quantity; the breasts more enlarged, but still no flush of milk; less pain over uterus, and scarcely any tenderness on moderate pressure over the abdomen; cough troublesome. Dressed the wound. Adhesion had taken place in part. At the upper part near the umbilicus there is a portion of omentum projecting, about the size of a common nut, and also a piece about the size of a small bean about the centre. Between the lowest sutures there was a separation of integument to the extent of three-quarters of an inch. I removed the suture nearest the navel, as it appeared to strangulate the piece of omentum which projected. The wound was dressed as before, a little dry lint being first placed on the protruded omentum. She was able to turn herself on either side, and raise herself for the bandage to be passed under her without any assistance. Omit chloride of mercury pill; continue mixture.—Eight P.M: Pulse 100; tongue more clean and moist; been tolerably comfortable during the day, and complains most of the cough. Ordered her boiled milk and bread and beef-tea; the morphia to be repeated if she were restless and the cough troublesome.

6th.—Has had a good night. Pulse 92; tongue quite clean; bowels have not acted since the operation; lochial discharge less and paler. To have a dessert-spoonful of caster oil, to be repeated in six hours if required. Omit the other medicine.—Nine P.M.: Bowels acted once, two doses of the oil having been taken. Repeat the morphia.

7th.—Had a good night. Pulse 88; tongue clean and moist. Dressed the wound, which looked healthy. The lower portion cannot be retained in apposition, the edges separating nearly three-quarters of an inch. The sutures seem to be giving way; the discharge escapes freely. Dressed as before. Omit the morphia at bedtime.

8th.—Has had a more restless night, from griping pain in the bowels, which feels relieved since they have acted two or three times this morning. Pulse 90, more feeble; seems rather exhausted with the action of the bowels. Changed the pad of lint, but did not remove any dressing. Wound granulating; lochial discharge ceased; cough troublesome. To have a sixth of a grain of morphia twice or three times a day.

9th.—Has had a good night. Wound dressed and looking healthy. Adhesion has taken place where the lowest suture was. To have a little beer.

10th.—Going on well..

11th.—Continues improving; pulse 80; tongue quite clean and moist. Wound dressed; looks quite healthy, and is rapidly closing. The projecting omentum is now much less, and the patient says it is not nearly so sore. Appetite not quite so good. To have a grain of sulphate of quinine three times a day.

12th.—Going on well.

13th.—Can bear to sit up. Wound dressed, and is rapidly healing. She continued steadily to improve, up to the 19th, when another attack of severe pain came on, evidently the result of fresh mischief in the diseased bone. The pain was relieved by opiates, and the quinine continued, but the appetite failed, the wound began to look unhealthy, and the patient became much more feeble. The attack gradually subsided after a few days, the appetite returned, and, wine being ordered, the wound assumed a more healthy aspect. The projecting portions of omentum were touched with nitrate of silver and dressed with dry lint and strapping. She rapidly improved, took no medicine after October 28th, and at this time came down-stairs for a few hours daily. The patient steadily gained strength, and the whole wound was perfectly cicatrised in ten days more, with the exception of a very small opening, which would just admit a very common silver probe, about two inches from the pubes. The discharge, however, gradually diminished, and on the 26th of November, eight weeks after the operation, the wound was perfectly healed.

Remarks.—The disease which exists in the sacrum appears to have continued over many years, as the patient says she has had the recto-vaginal fistula ever since she was a child. The fits of pain, attended with rigors and vomiting, to which she is subject every few weeks, are no doubt the result of small abscesses which keep forming; but as I was not at first aware that I had this mass of diseased bone to contend with, I was led to suspect some kidney affection, which the symptoms closely resembled. The success of the operation depended no doubt upon its having been undertaken before any symptoms of exhaustion appeared, and also to there having been no attempt made to deliver by craniotomy, thus avoiding any injury to the parts; and considering that, after all, it was a breech presentation, I think it was fortunate it was not attempted. The great thing to fear, in my opinion, with regard to the patient in this operation, where performed early, is the supervention of peritonitis, and the plan of anticipating it, by giving small doses of calomel and opium soon after, and thus preventing it, seems to me to afford a better chance than any treatment that can be adopted after severe peritonitis has set in.

In conclusion, I have to express my thanks to the medical gentlemen present at the operation for the ready and valuable assistance then afforded me, and the interest evinced subsequently during the treatment of the case. .

Bradford-road, Dewsbury, 1857.

Clinical Researches
ON
CHLOROFORM.

BY M. CHASSAIGNAC,

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Translated by BENJAMIN BALL, ESQ., *Interne des Hôpitaux de Paris; and* JOHN CRAVEN, ESQ., M.R.C.S.E. & L.A.C.

(*Continued from April No.*)

CHAPTER IV.

OF CHLOROFORM DURING PREGNANCY AND SUCKLING.

IT was hard to believe that the great derangement caused in the economy by the action of chloroform would not have a deleterious action upon the state of the fœtus in the womb, or upon the state of the infant suckled by the nurse to whom chloroform had been given. Facts of this double character, of which we have been witness, although not very numerous, permit us, if not to solve the question, at least to put it in a manner to elicit, on the part of accoucheurs, information of great importance. We will say at first a few words concerning anæsthesia during pregnancy; we will occupy ourselves afterwards with anæsthesia during suckling.

The first time it happened to us to produce anæsthesia during pregnancy, was in a patient in the Hôpital St. Antoine, arrived at the fifth month of gestation, and in whom it was necessary to destroy enormous vegetations occupying the labia externa. This woman had arrived at the fifth month of pregnancy, three operations were performed at sufficiently short intervals, accompanied by the use of chloroform, and followed notwithstanding by severe pain. We ought to ask ourselves if the attacks of hysteria and uterine pains which happened after the two first operations depended upon the chloroform, or upon the operation itself. As to the attacks of hysteria which followed nearly immediately the employment of the chloroform, it appears to us rational to attribute them to this agent. As to the uterine pains, if we carefully note that they did not come on until the third day after the operation, we shall understand that we ought to attribute them much rather to the results of the operations, and to the vulvar pains than to the action of the chloroform. The more so as in another case, of which we have to speak, and which had not any painful after symptoms, chloroform did not in any way determine uterine contraction.

Because that, in the two cases alluded to, chloroform has not produced any dangerous effect upon pregnancy, we would be far from concluding that this agent can be always employed with impunity in that state. We think, on the contrary, that in spite of the freedom from accidents in some cases, we ought not lightly, and without serious motives, to have recourse to anæsthesia during pregnancy.

We have to say something of chloroform during suckling. Can we cause a nurse to inhale chloroform? What influence can the anæstheeia have upon the infant?

This double question, which it would be so important to resolve by a series of careful observations, has many times presented itself to us, because our treatment of abscess of the breast not being able to be used without causing rather severe pains, we have had recourse to chloroform in a considerable number of cases, both in hospital and in private practice. In none of them have we observed any accident, and the children have not appeared to us to experience any dangerous influence from it; still, in two cases, the infants suckled by women who had inhaled chloroform, were seized with drowsiness and pallor, which lasted several hours. We have thought, then, in establishing, in a general manner, that suckling was not a contra-indication of chloroform, that it was our duty not to forget in certain cases the child suffers from the anæsthetic influence.

CHAPTER V.

ON THE MEANS OF AVOIDING THE DANGERS DURING OPERATIONS PERFORMED ON THE BACK PART OF THE MOUTH.

The anæsthetic state during painful operations is for the patient such a boon, that whenever we can, without exposing them to any danger, use this precious means, it is a duty of humanity and of good surgery to do so. If, on the contrary, it is at the risk of real dangers that we spare the pain, there is an unintelligent application of anæsthetics. It is this consideration, according to us very cogent, which has caused many respectable practitioners not to use chloroform in certain operations, and particularly in those performed upon the back part of the mouth. If it were asked,—Do the operations (accompanied by hæmorrhage) performed at the back part of the mouth comport with the use of chloroform employed without special precautions? The answer ought to be, No. Can these same operations admit the employment of chloroform with the precautions that we are about to indicate? It would be improper to decide the question at present. But if after having shown the results of our experience, and the considerations which have directed our researches, we can cause those who look over these remarks to share our convictions, we shall be happy to see them deduce an affirmative conclusion. We know what grave objections have been raised by our colleagues, and even by ourselves, against anæsthesia during operations performed in the throat: Asphyxia by the passage of blood into the bronchi in a patient in whom consciousness is enchained—let us say, rather in a great measure extinguished—by chloroform; copious hæmorrhages by involuntary deglutition of liquids during the state of half sleep and torpor which succeeds to the period of collapse. Such are the first obstacles which present themselves to the imagination. Another circumstance—the facility with which the touching of the bottom of the throat removes the anæsthesia, since, according to the remark of M. Monod, this is one of the best means of awakening consciousness in patients too strongly influenced by anæsthetics. This joined to the fact, that we are compelled by the nature of the operation itself to diminish by one-half the passage of inhalation, understanding that from the moment we open the mouth to commence the operation, the air enters it without mixture, and thus prepares the termination of the anæsthesia. All this constitutes an *ensemble* of contra-indications to the use of chloroform in these operations, and besides the horizontal position which is directed by prudence, but which has the inconvenience of rendering more difficult the execution of operations at the back of the throat, adds a new contra-indication to those which we have mentioned. Thus we do not seek to palliate any of the motives, which, for many dexterous surgeons, tend to remove from the operations which occupy us, the assistance of anæsthetics. If from generalities we descend to particular applications, we see in that which concerns the removal of the tonsils, there are still numerous motives to abstain. In the first place, for the simultaneous removal there is in this operation so little pain, and so much promptitude and surety in its execution, that in truth we do not see sufficient reasons for exerting oneself in seeking means of using chloroform in such a case. But all these reasons, which the practitioner understands, cannot be appreciated by certain patients, whom the mere idea of an operation puts beside themselves, and who prefer to incur all the consequences of their state, sooner than look with *sangfroid* upon a short transient pain. Meanwhile must we abandon this kind of fastidious patients to all the consequences of their pusillanimity? Is it not better to seek for combinations, by means of which we can remove this last objection, in admitting them to the benefit of anæsthesia, deprived of the inconveniences and dangers which it presents in certain cases. As for us, here is the plan which we have adopted.

In the cases of ablation of the tonsils, which we choose, for example, because the operation is frequent in young subjects, well disposed by their age for the application of anæsthetics, not only by reason of the fright which is inspired at the idea of all operations, but still more, and principally, by reason of the facility with which we can determine in them the desired result by chloroform. If during the anæsthetic state we could contrive to place two amygdalotomes, one upon each tonsil, to pierce at first each of them with the little fork of the instrument, which produces scarcely a few drops of blood, then in this state of things, waiting for the moment when some spontaneous manifestations indicate the awakening close at hand, we could then make their simultaneous section, with a rapidity of execution peculiar to this operation, and remove the two tonsils before the return of the painful perceptions, and yet at a moment when already the patient is in a position to expel the blood which falls into the throat. We must remember that the tendency to expel from the mouth liquid bodies is, so to speak, increased by chloroform; for there are hardly any subjects who, under the influence of this agent, do not expectorate to an extent sometimes very disagreeable to those who surround them. To which we must add, that the patient lying in the horizontal, or half-oblique position, should be inclined upon the right side immediately after the section of the tonsils, in the attitude which is taken spontaneously by the sick who are so weak that they cannot sit up to vomit—a position directed for the asphyxiated by submersion, in order to facilitate in them the expulsion of liquids from the air-passages.

No accident has marked the result of several operations for removal of the tonsils, proving, according to us, that by means of precautions easy to take, one can, without any danger, allow patients, who have to submit to ablation of the tonsils, to participate in the advantages of anæsthesia. We shall, no doubt, discover within a short time, many other applications of this principle of "*demi-réveil*" immediately before the direct action of the cutting instrument in operations upon the throat, the tongue, and the nasal, buccal, and pharyngeal cavities. Lately we have acted in the same manner, and with full success, in a man, aged fifty-two years, upon whom we performed amputation of the tongue.

[Speaking of two cases of ablation of the tonsils performed by two French surgeons, while the patients were in a state of *complete* anæsthesia, M. Chassaignac says,—]

At present, and after the deplorable accidents which have arisen in certain cases from the employment of chloroform, we should be far from counselling a like mode of operating; we will say more, it would appear to us superlatively imprudent. To employ chloroform upon a patient in the sitting posture, and an operation of this kind, under the triple imminence of syncope, asphyxia, and hæmorrhage into the interior, would be braving the dangers which, on the contrary, we have always endeavoured to avoid, by the minute precautions which have been the object of our assiduous researches. Thus we do not hesitate to proscribe, in these operations upon the throat, commencing anæsthesia, and still more, anæsthesia carried to a state of collapse; it is only at the moment when it is about to cease, and when one could certainly depend upon the return of the patient to spontaneous action, that we admit of its employment.

CHAPTER VI.

REMARKS ON OCULAR ANÆSTHESIA.

As soon as the discovery of chloroform enabled us to modify at will sensibility and motion, those two great manifestations of life, it became natural to inquire whether any benefit might be derived from its application to the surgical treatment of ocular diseases. The general results of anæsthesia could not in this instance provide us with an answer; and the only possible method of solving the question in a practical sense was to observe with peculiar care, in a great number of cases, the action of chloroform on the eye. The numerous opportunities which a vast surgical service affords have enabled us to examine the influences of this agent—1st, on the eyelids; 2ndly, on the conjunctiva; 3rdly, on the motions of the eye; 4thly, on the contractions of the iris.

Before resuming in a few general propositions, the results of our experience, we feel authorized to say that chloroform is certainly destined to render great service in the treatment of ocular diseases, provided its mode of action be thoroughly understood. Both surgeon and patient might otherwise be sadly deceived, the results which theory leads us to anticipate from our present knowledge of the general effects of chloroform being, in this particular instance, often contradicted by experience. A German ophthalmogist, Dr. Jungken, has already described the effects of chloroform in a vast number of operations on the eye; but so different are his conclusions from our own that we almost doubt whether his opinions are rather the result of theory than of practice.

1. When the process of inhalation has been carried sufficiently far to obtain muscular resolution, the constant effect of chloroform is to render the eyeball completely motionless. This symptom is by far the most constant of all, since the dilatation of the pupil undergoes numerous variations, and is sometimes succeeded by contraction, in the most advanced stage of anæsthesia.

2. Another phenomenon, which appears equally to deserve notice, especially as regards the operation for cataract, is, if we may borrow the expression of Barthez, the "power of fixity" which the eye acquires under anæsthetic influence; whatever its position may happen to be when the state of anæsthesia begins, that position is invariably retained throughout the whole duration of the experiment. During the period of insensibility, the eye is usually turned upwards, and lies concealed under the upper eyelid; it then becomes quite impossible to move it by the mere pressure of the fingers, without the assistance of an instrument—a fact of the highest importance, since it might in certain cases become an obstacle to the operation for cataract.

The two preceding propositions may at first sight appear identical, "immobility" and "fixity" being synonymous; but if language establishes no great difference between the words, clinical facts do so, and in the following manner. If we compare the state of the eye on the dead body with that under which it is placed through anæsthetic influence, we find that the eyeball on the dead body lies no doubt motionless, but the fingers easily move it in any given direction; we can incline it downwards, upwards, right or left, without difficulty. In the state of anæsthesia, not only is the eyeball motionless, but it lies fixed in a determinate position, which the pressure of the finger is totally insufficient to alter. As a whole, the eyeball may of course be displaced, but it ceases entirely to revolve either on its vertical or on its transverse axis. This fact, which is of the utmost importance in a physiological point of view, is worthy of attention. It is evidently due, in our opinion, to the simultaneous tonic contraction of the four recti and the two oblique muscles, which maintain the eye in a state of perfect immobility. Is it not, however, an interesting fact to the physiologist, that while chloroform places the muscles of the entire body in a state of resolution, its action should be directly the reverse on the muscles of the eye, which enter, under its influence, into a species of spasmodic contraction, entirely at variance with the general state of the patient?

3. The immediate consequence of the above-mentioned fact is the tendency of the humours contained in the different chambers of the eye to escape as soon as the membranes which surround them are divided.

4. The action of chloroform on the eye may be divided into two distinct periods, the results of which ought not to be confounded—1st, during the state of excitement; 2ndly, during the state of collapse.

Irritation is the first effect produced by chloroform on the conjunctiva; we therefore see most patients close their eyes during the first period of inhalation. The next result is, a modification of the contractile powers of the iris; and this exceedingly complicated part of its action deserves special attention. During the first period of anæsthesia, and consequently in the stage of excitement, chloroform produces a considerable dilatation of the pupil; but, strange to say, at the moment when insensibility is complete, the pupil, formerly dilated, contracts a few instants after the eyelids are opened. This physiological action seems to belong to the singular class of phenomena described under the name of reflex actions; for in that stage the brain receives no luminous impressions from without. We therefore see that surgeons who expect to find the pupil expanded under the influence of chloroform might be considerably surprised by the phenomena we have just described. This fact has led us to state in another paper that chloroform is a bad dilator of the pupil.

5. The eyelids present another singular phenomenon, equally deserving our attention, and which we have described under the name of "immobilité cadavérique des paupières." In a certain number of cases, when anæsthesia has been carried to a considerable extent, the eyelids remain motionless, and if opened do not close again. This remarkable fact appears almost alarming to those who witness it for the first time. So great is the absence of muscular tonicity that it seems impossible the vital powers should not be deeply endangered after spontaneous action has so completely disappeared.

6. Another fact, which should always be present to the operator's mind, is the sudden re-appearance of the pupillary contraction, according to laws hitherto unknown. The pupil is often seen to contract after considerable expansion, without any known cause. This takes place in the operation for cataract, after the lens has been removed.

7. The age of our patients does not seem to exercise any definite influence upon the general results of the experiment; it seems, however, that constitutional debility facilitates the action of chloroform upon the eye, the patient's vital resistance being considerably diminished.

The study of these peculiar phenomena is far from being so easy as one might be led to imagine. There exist innumerable difficulties and causes of error which have compelled us to exclude from our statistics every case in which a doubt was possible. The reader will therefore easily understand the motives which lead us to select no more than 35 cases, out of a large number, for the purpose of establishing the ordinary effects of chloroform on the eye.

Out of these 35 cases, 8 patients were from sixteen to twenty years of age; 10 from twenty to thirty; 11 from thirty to forty; and 6 above that age.

On all patients in the state of collapse the absolute immobility of the eyelids was found to exist; but in the stage of excitation it only made its appearance five times out of thirty-five. This symptom may therefore be considered as one of the best signs of complete insensibility.

The state of the visual functions has not been examined in the preceding cases, on account of the difficulty encountered in judging the sensations of the patient. How can we know whether he does not see the instrument about to be plunged into his eye, or whether, although seeing it, he is unable to move and consequently to avoid it?

In four cases of cataract, the pupil was completely dilated during the operation; in two cases, out of four, the pupil contracted immediately after extraction of the lens. A similar fact has been observed by M. Follin, on the patient whose case is related in the "Mémoires de la Societé de Chirurgie."

CASES OF THE FURTHER SUCCESS OF THE READY METHOD.

To the Editor of The Lancet.

Sir,—I think the following lines, which comprise further details of the case of *Narcotic poisoning*, and of a case of *Drowning*, will have great value for the readers of The Lancet, and I trust they may occupy an early place in its pages.

I am, Sir, your obedient servant,
Marshall Hall.

March, 1857.

60 New street, St. Helier's, Jersey, Feb. 10th, 1857.

Dear Sir,—Truly has it been said that medicine in judicious hands is the handmaid of nature.

As truly may it be said that your thoughtful and ingenious application of great principles and natural laws to the treatment of diseases and accidental exigencies must be ranked amongst one of the great discoveries of modern medical science; for they have, since the short period of their first promulgation, been the means of saving many lives that would have been otherwise lost.

The enclosed I have thought worthy of record, as exemplifying in a remarkable degree *the truth* of the *principle* as well as the *success* of the "Marshall Hall Method."

The desire of adding testimony to a great truth, which like all others is too slow in being received and appreciated, and the wish of seeing honour given to whom it is due, are the only apologies I have to offer for addressing you.

Believe me to be, Sir, yours very truly,
Charles Vaudin, M.R.C.S., &c.

Dr. Marshall Hall.

Mrs. D——, a lady of exceedingly delicate constitution, aged twenty-six, was taken in labour of her second child on the 2nd of January at seven, A.M. She had suffered trifling pains two days before, and had not felt the motion of the child since they commenced. I saw her at nine, and found her then suffering from frequent but ineffectual pains. The vagina and external parts were hot and dry; the os uteri dilated to the extent of a shilling; its lips thin, dry, and unyielding; membranes entire; and head presenting. A careful stethoscopic examination of the abdomen failed to detect any sounds of the fœtal heart. The pelvis was small, but not deformed.

At seven P.M. on the 3rd, I delivered her of a delicate male child. Around its neck were two folds of the funis, in which I could not detect the slightest pulsation. It was cut and lightly ligatured. The surface was flaccid, cold, and very livid; the lips blue; the palms, soles, and a small surface over the nates were quite sodden, and partially exfoliated. Entire absence of all reflex action. The pupils were insensible to light, the nose to ammonia, and there was not the slightest appreciable motion in the præcordial region. The usual remedies, except sufflation and the hot bath, were tried without success. Suspended animation could hardly be more pronounced or akin to death.

The "Marshall Hall Method" I persevered in for twenty-six minutes, accurately noted by my watch before me. The postural movements were made upon warm blankets frequently changed. Then the funis began to bleed; about one drachm of blood was lost, and it was secured. The countenance had before this undergone a marked change, had become mottled and red. My observations of the respiratory actions coincided exactly with Mr. M. H. Higginbottom's—viz., "with each induced expiration a quantity of air, denoted by bubbles of a tenacious frothy mucus, issued from each nostril, the bubbles receding on induced respiration." I could now distinctly discover a slight fluttering action of the heart. After twenty-nine minutes, and following an induced expiration, I noticed a tremor of the skin and muscles over the epigastrium, followed by a sudden voluntary inspiration, the chest becoming forcibly distended and fixed, rendering its diaphragmatic boundary tense, and, as well as itself, resonant as a drum all over. The chest remained in this fixed position for nearly two minutes, the intercostal muscles being very prominent, the postural motions still going on, and I began to think all my efforts ended here, when the child made a voluntary expiration, attended by a cry; the movements and frictions were made with redoubled energy, and I soon had the gratification of hearing the infant cry loudly enough, and breathe alone, as well as empty its bladder vigorously, thirty-three minutes having elapsed. The door and a window of the room were kept open, and the process carried on near the former to insure a supply of fresh air. The child has subsequently been dry nursed, and is doing well.

Wiveliscombe, Somerset, Feb. 6th, 1857.

Dear Sir,—With much pleasure and satisfaction I send you a very short account of a case of asphyxia in a new-born infant, treated by your valuable plan.

On Tuesday, Feb. 3rd, at four p.m., I was called some miles through frost, snow, &c., to a poor woman who had been in labour three days, and who, strange to say, out of eight labours, has five times had arm presentations and twice placenta prævia. I found *part* of the placenta and *both arms* presenting, and after very great exertions, delivered her by turning of an apparently *dead* child. For three or four minutes I was so much engaged with the mother, who was in a state of great prostration, that the child was not attended to. I then treated the child on your plan, although with very faint hope of success; but *after rather more than half an hour's* exertions, much to my satisfaction, and to the nurse's and mother's astonishment, circulation and respiration were as strong as I ever saw in a new-born child. I feel quite sure that hot water, friction, brandy, &c., would have been useless in this case.

Mr. M. H. Higginbottom's case was very much like mine, as I noticed the frothy mucus which came from the nostrils, and this gave me great trouble as the nurse would give me no help in a case which she thought hopeless. I may add that I saw the little patient this morning, and she is as strong as any child of three days old.

The weather was very cold, and I quite think with you that cold protracts latent vitality, and gives you a greater chance in these cases.

I am, dear Sir, yours very truly,
James Nicholls, M. D.
Marshall Hall, M.D., F.R.S.

Tattershall, Feb. 28th, 1857.

Dear Sir,—I have much pleasure in complying with your request for the details of my case of poisoning.

On making inquiries of the relatives of my little patient, I learnt that it had been for the last few days suffering from a cough, and that they had given it a sufficient quantity of poppy-water to compose it to sleep. It slept all night and the following morning without intermission, when, about twelve o'clock, a.m., on attempting to give it some broth, it was seized with a fit, to relieve which it was placed in a *warm bath*, but was soon removed from thence, apparently lifeless.

On my arrival at the house, a little before two o'clock p.m., I found the child lying in its grandmother's arms, in a state of insensibility; the eyes were closed, the pupils contracted, no pulse and no respiration could be detected.

I immediately placed it in the prone position, with one hand under its forehead, the other under the chest. I commenced turning the body on the side and a little beyond, and then on the face, alternately, repeating these measures thirteen or fourteen times in a minute; at the same time, the attendants were desired to rub the limbs upwards simultaneously.

I had not continued my attempts at resuscitation more than a few minutes, when a slight motion of the brain became perceptible, and gasping movements of the mouth followed.

Although no decided amendment displayed itself for some time, yet I was fully convinced that the efficient maintenance of the respiratory process was of the first importance, not only to the continuance of the circulation, but also as being the chief means by which the poison is eliminated. I therefore persevered in the postural movements until half-past six the same evening before I could pronounce my patient out of danger.

Apologizing for not replying to your note earlier,

I remain, your obedient servant,
Dr. Marshall Hall. Charles Blades.

Newport, Isle of Wight, March 18th, 1857.

My dear Sir,—I have adopted your discovery in several cases with perfect success.

A female, aged thirty-two, in a moment of rage, threw herself from a bridge into our river. I was not perfectly satisfied that the asphyxiated condition in which I found her arose from drowning—although it might have done so—because the depth of water was not above the knees. Some of the parties who picked her up said she was not long enough in the water to be drowned; others said she was drowned. I attributed the apnœa to the shock to the nervous system produced by the fall from the height, from fifteen to twenty feet—she pitched on the nates; or to the exposure to cold, it being a bitter night, and she was dragged a long distance in the water to reach the landing place. It might perhaps arise from combined causes.

I was soon on the spot, and in the language of the bystanders found her dead, in other terms, asphyxiated. I commenced your Ready Method, and continued it for upwards of an hour, with perfect success, to the amazement of her friends who assisted me.

The other cases were suspended animation from childbirth, of which so many cases are on record.

I shall be happy to reply to any questions on the foregoing case, if you may desire further information.

Believe me, with sincere respect, faithfully yours,
Dr. Marshall Hall. Ernest P. Wilkins.

To the Editor of The Lancet.

Sir,—Within the last three weeks I have had two opportunities of trying the Ready Method in the asphyxia of newly-born infants. One was a case of turning on account of arm-presentation; the other was a presentation of the breech. In both instances the heart's action was barely perceptible; no pulsation could be felt in the cord, and no inspiratory effort could be detected. After rotating the trunk five or six times, inspiration became fully established, so that the children were able to cry vigorously. I purposely abstained from using any other means of resuscitation. My experience of these two cases would, as far as it goes, lead me to consider Dr. Marshall Hall's method as far more prompt and effectual than any of the means which we had previously been accustomed to use.

I am, Sir, your obedient servant,
J. G. SWAYNE,
Physician-Accoucheur to the Bristol General Hospital, and Lecturer on Midwifery at the Bristol Medical School.

Clifton, March, 1857.

Medical Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

APRIL—MAY.

DR. LOCOCK, PRESIDENT, IN THE CHAIR.

ON THE PATHOLOGY OF THE ARTICULAR CARTILAGES. BY THOMAS BRYANT, ESQ., F.R.C.S., Surgical Registrar at Guy's Hospital.

(*Communicated by* MR. BIRKETT.)

THE author commenced by briefly describing the method by which cartilages are nourished, and laid stress upon the point of their dependence upon the integrity of other structures for their supply of blood; the consequence of this dependence being well shown in the fact, that the nutrition of the cartilages is necessarily arrested or perverted upon any disturbance to the nutrition of the part upon the integrity of which they depend for their nourishment. The diseases to which the cartilages are liable were described, as hypertrophy, atrophy, and granular, fatty, and fibrous degeneration. That hypertrophy might exist under the same circumstances that induce such a result in other tissues could not be denied, although the author knew of no genuine case. The cases described as such were associated with other disease of the joint, and it was questioned whether such a thickening was not the result of softening, or mere swelling of the tissue, or some other pathological change. That atrophy of cartilage exists, daily experience gave positive evidence, occurring either in old or young people, where any of the requirements for healthy nutrition were defective. Under the head of granular degeneration, was included the majority of the cases of what is called ulceration of cartilage. The auther adverted to the investigations of Professor Redfern, stating that his own researches had but tended to convince him of the truth of that writer's conclusions. He then described the microscopical appearances of cartilage in the various stages of its degeneration, and stated that the degeneration might primarily commence either in the cartilage itself, or upon its synovial or bony surfaces; in the latter cases, the degeneration being only secondary in the order of events, some disease or perverted nutritive change in the bony lamella, or synovial membrane, being antecedent to the degeneration of the cartilage. A case was then given illustrative of the dependence of the cartilages for their integrity upon the integrity of those tissues to which they were connected. It described a small patch of the synovial surface of a cartilage having become degenerate, exactly corresponding to a patch of inflamed synovial membrane, the other portions of the cartilage being quite healthy. If this membrane had been ruptured, an ulcer, *so-called*, would have been visible. The analogy between this process of degeneration and of ulceration generally was then alluded to, and the author asked if it were not fair to conclude that the same cause—namely, inflammation, which we know does produce a normal nutrition in a part, would in other tissues be also followed by the same series of changes, and that granular degeneration of the cell structure, whatever that structure may be, is the element of the process which is called ulceration? Degeneration of cartilage as depending upon disease of the bony lamella or heads of the bones was then mentioned, and the different appearances of the cartilage in the different stages of the disease were then described. Fatty degeneration next claimed attention, and was described as being constantly found in joints which had been deprived of their natural function by any cause whatever. The general and microscopical appearances were then given, and a case illustrative of the subject read. The author then stated that it was due to this form of degeneration that the rapid disorganization of a joint follows upon an accidental attack of inflammation in chronic diseased joints. Fibrous degeneration was next described, and the different appearances to the eye and the microscope in its different stages. The connexion between this form of degeneration and the calcareous degeneration of the osseous lamella was mentioned, and also the connexion between the fibrous and granular degenerations, the former appearing to be a more chronic change of a somewhat similar character. Other changes were then alluded to not included in the preceding divisions, such as the deposition of gouty materials in and upon the cartilages of joints, and the absorption of cartilage, leaving the porcellanous or dense bony surface of the osseous lamella. A case was then read illustrating the connexion between the bony lamella and the cartilage, and demonstrating that the degeneration of the latter and the calcareous degeneration of the former were produced by similar causes.

MR. URE said the author had conferred a benefit upon the Society by the clear manner in which he had indicated the various diseases of articular cartilage. He (Mr. Ure) had on several occasions seen the granular disease. A case of a striking character had occurred to him last September, after amputation of a boy's limb for pulpy degeneration of the synovial membrane. Another peculiar disease, called the pilous, also existed, in which the surface of the cartilage had the appearance of the pile of Utrecht velvet. The author would probably include this under the head of fibrous disease. The author's views were entertained very extensively on the continent, but particularly in Paris. M. Broca had mentioned a change that came within the proviso of the author's statement, and this he had designated ulcerated degeneration of the cartilage.

Mr. Quain had expected a different kind of paper. The title had led him to believe that "pathology" of the cartilage meant the cause, symptoms, diagnosis, and also the morbid anatomy, of the diseases. He should have been intererested if the author had connected the morbid anatomy and the morbid changes with the symptoms and appearances exhibited during life. He had been much struck with the case mentioned in the paper of the child who had died with hydrocephalus twenty-eight days after the disease of the hip had commenced. The dissection of such a case was interesting, as surgeons seldom had the opportunity of observing the disease until it was in a very advanced condition. The description given by the author of inflammation of synovial membrane and the ligamentum teres was clear, and he had probably correctly ascribed the disease of the cartilage to the disease previously existing in the synovial membrane, but he added that the cartilage on the head of the bone was softened, and the synovial membrane over it inflamed. He ascribed the change in the cartilage to the change in the synovial membrane. Was it certain, however, that there was a synovial membrane over the head of the bone? He believed the existence of such a membrane in these cartilages was denied by histologists.

Mr. Spencer Smith exhibited a preparation from the Museum of St. Mary's Hospital. It had reference to the question as to whether a synovial membrane existed over the head of the bone. Histologists, he said, admitted that there was such a membrane in the fœtus, but many denied its presence in after life. The membrane, however, could be distinctly seen in the preparation, and was raised from the surface of the cartilage; the cartilage beneath being hollowed out like a cup. The Museum at St. Mary's Hospital contained a splendid preparation in which three or four such destructions of cartilage had taken place at the lower end of the femur. The joint had been rapidly destroyed by acute inflammation; and, on making an opening into it, three or four little puffs on the synovial membrane—some of the size of peas, and some as large as horse-beans—were observed. The synovial membrane projected forward; and on slitting it open, a soft fluid escaped, and the cartilage was found to have undergone a destructive process. In the specimen he had exhibited, there was not the slightest appearance of the membrane being a false one.

Mr. Birkett had examined many subjects very carefully to ascertain if such membranes existed. He had never, however, in the adult subject, met with anything approaching it. He had discovered, near the circumference of the head of the femur, in infancy and very early life, a small development of such tissue as might be called epithelium, but nothing approaching, in his idea, to the character of a membrane. Mr. Toynbee had some years since brought before the Microscopical Society specimens to illustrate the existence of the synovial membrane; but he (Mr. Birkett) did not deem them satisfactory. In Mr. Smith's specimen he regarded the membrane as something adventitious. The synovial membrane was an extremely delicate tissue; but the membrane in the specimen was as thick as a piece of paper. Such membranes he regarded as the result of some inflammatory action pouring out a tissue which became organized on the surface of the cartilage.

Dr. Mayo concurred in the remark of Mr. Quain that morbid anatomical investigations should always be combined with strictly dynamical, physiological, and practical considerations, having reference to the actions and conditions of life.

Mr. Spencer Smith remarked, that in his specimen the thickness of the membrane most probably depended on the fact, that prior to amputation of the limb disease had been going on in the articulation for nearly eighteen months.

Mr. Bryant, in reply to Mr. Quain, said that the integrity of articular cartilages depended so much upon the integrity of other structures, and were involved so much in the diseases of other structures, that if he had extended his communication so as to meet the requirements of Mr. Quain, his paper would have been one upon diseased joints, and would have extended far wider than he intended it should do. Whether or no the membrane over the articular cartilage was synovial he could not determine. It was, however, certainly a membrane, being composed of a structure differing completely in character from that of the cartilage.

ON A READY METHOD OF DETERMINING THE PRESENCE, POSITION, DEPTH, AND LENGTH OF A NEEDLE BROKEN INTO THE FOOT.

(*Communicated by* H. Bence Jones, M.D., F.R.S.)

After adverting to Mr. Alfred Smee's lecture, published in the *Medical Times* for December 14th, 1844, the author gives a most clear and minute description of the means which he employed for the above named object; but it is so succinctly related as to defy abbreviation. The communication will shortly appear in the "Proceedings" of the Society. The deductions to be drawn from it, however, may be stated to be—First: That the presence of an imbedded needle may most surely be determined by making it into a magnet by induction, and then testing for it by a minute suspended magnet. Second: That the direction of an imbedded needle may be determined by marking the direction in which the inducing magnet makes the strongest magnet. When the length of the imbedded needle lies in the line joining the poles of the inducing magnet, it becomes the strongest magnet. Third: The depth of the imbedded needle may be determined by the intensity of the action near the surface of the skin. Fourth: The length of the imbedded needle may be guessed when the direction is known, and the amount of magnetic action at the part of the surface opposite to the spot where the needle entered is observed. Fifth: The motion of the imbedded needle may be determined by carefully noting from time to time the changes that require to be made in the position of the inducing magnet, in order to give to the hidden needle the strongest possible magnetism.

Mr. Quain had successfully adopted the plan recommended by Mr. Smee in several cases. He thought that the plan of magnetizing the needle in the flesh, as proposed in the paper, was a great improvement. Unless, however, the portion of needle employed in the experiment was very small, it would not be acted upon by the needle which was imbedded. On one occasion he was enabled by this plan to detect a small fragment of iron which was imbedded in the ulnar nerve.

Mr. Brooke remarked that every surgeon might not be in possession of a powerful magnet to magnetize the imbedded needle; but this effect would be as well produced by a ring of copper wire, containing about 100 coils, similar to that manufactured by galvanometers, the two ends of the wire being connected with a galvanic battery. The greatest amount of magnetism would be induced in the imbedded needle when its direction was perpendicular to the plane of the coil; but if the plane of the coil were coincident with the plane of the needle, scarcely any amount of magnetism would be induced.

Mr. Spencer Smith said, in reply to a question, that it was not stated in the paper whether or not the needle had been extracted.

Dr. Copland inquired whether any surgeons had extracted needles which had been introduced in the manner described?

Mr. Quain had taken away two fragments. The experiment, however, required to be conducted with great caution, as the needle might be acted upon by the atmosphere.

Dr. Copland recollected a lady who was lame for a considerable time in consequence of a needle having become deeply imbedded in her foot. Sir Benjamin Brodie had advised that nothing should be done in this case. The pain, after some weeks, disappeared; the lady was able to walk, and experienced no after-inconvenience. The needle was never discovered.

On forcible Extension and Rupture of the Uniting Medium of Partially anchylosed Surfaces. By Bernard E. Brodhurst, Assistant Surgeon to the Royal Orthopædic Hospital.

The author commenced by stating that excision of the articular surfaces of bones is at the present time an operation of frequent occurrence, and that it is undertaken not as a substitute merely for amputation, but that this operation is performed in cases where amputation would not be thought of, and where forcible rupture of partially anchylosed surfaces would be advantageously had recourse to. He related three cases of partial anchylosis of the knee, in which the adhesions were ruptured and motion was restored. He also cited three similar cases in which the articular extremities of the bones were excised, and related four cases of partial anchylosis of the hip, and one case of partial anchylosis of the elbow; in all of which rupture of the uniting membrane was successfully performed. The author then gave a brief historical sketch of the operation, to show the means which have been hitherto adopted in the treatment of these cases, and to contrast them with those which he has practised and which he recommends; and concluded with some details as to the after-treatment adopted by himself. The cases related were—

1. A youth, aged fourteen, with partial anchylosis of the knee at a right angle, together with sub-luxation of the tibia backwards, of nine years' duration.
2. A female, aged forty-two, with angular false anchylosis of the knee, together with sub-luxation of the tibia backwards, of ten years' duration.
3. A female, aged seventeen, with angular false anchylosis of the knee, which had existed one year.
4. A female, aged eight, with angular false anchylosis of the hip-joint, of three years' duration.
5. A female, aged thirteen, with false anchylosis of the hip, of four months' duration.
6. An artillery officer, aged twenty-five, with false anchylosis of the hip-joint, of fourteen months' duration.
7. A gentleman, aged twenty-one, with partial anchylosis of the hip-joint, of twelve years' duration.
8. A boy, aged eight, with angular false anchylosis of the right elbow, of five years' duration.

The author stated that in no instance did inflammation occur; and also that in all these cases motion was obtained. In some, complete power of motion in from six weeks to three months; in others, less extended motion. He concluded that fibrous adhesions may safely be ruptured when they have formed between articular surfaces. And he recommended that when muscular retraction exists and there is much rigidity present, the tendons should first be divided, and subsequently the adhesions should be ruptured, when the punctures have healed.

Mr. Ure observed that Langenbeck had attached great importance to reduction of the tonic muscles by chloroform, and had rarely resorted to subcutaneous section, except in the cases referred to by Mr. Brodhurst, in which fasciæ or cicatrix interfered. He mentioned six cases of anchylosis overcome by his method, five of the knee-joint, and one of the hip-joint, the ages of the patients varying from four or five to thirty-five years. In some cases, the patients walked about in a fortnight or three weeks after the rupture by alternate flexion and extension of the diseased articulations. The after-treatment which was found necessary was simply a small dose of morphia, and occasionally cold applications; leeches were in one or two cases applied, and in one instance venesection was resorted to. He (Mr. Ure) had followed Langenbeck's plan in the case of a little girl in St. Mary's Hospital, suffering from contraction of the knee-joint. A great improvement was effected in the articulation.

Mr. Henry Lee remarked that the author had described the advantage of subcutaneous section of the tendons and fasciæ in cases of partial anchylosis. In those cases, there must be some effusion of matter, more or less solid, into the joint; and where this was the case, it must be apparent, if the ligaments were left entire, that forcible extension of the joint must not only lacerate, but occasionally bruise and crush, the soft structures. The surfaces of the articular cartilages must be altered in their outline, so that it might be impossible for a semi-anchylosed joint, even if the adhesions were free, to be moved. In cases where inflammation affected the ligaments, without any alteration of the articular cartilages, it was often impossible fully to extend or flex the joint, on account of the alteration that had taken place in the ligaments themselves. He asked Mr. Brodhurst whether he had tried the plan of dividing the ligaments. It appeared to him (Mr. Lee), that if the ligaments could be subcutaneously divided, the joints might be extended with much less force and injury to the parts, and very much less chance of inflammation. It might be said there would be a chance of opening the joint, but if that were so, the opening of the joint under such altered circumstances would be nothing in comparison to the opening of a sound joint; the opening would not be into the cavity, but into the soft structure.

Mr. Coulson expressed his regret that the author had not entered somewhat more in detail into the pathological conditions under which the treatment recommended in the paper should be carried out. He thought it might be applicable to the knee-joint, in which cases there was little or no destruction of bone, and the contraction of the muscles had a great deal to do with the displacement; the limb also was useless. He did not, however, think that the method was applicable in cases of diseased hip-joint, in which muscular contraction had little or nothing to do with the deformity, and in which there was a considerable destruction of bone. In such cases anchylosis was the natural cure, and the joint was as useful as could be expected after a disease of the kind. Under such circumstances, the application of the plan of extension as recommended would probably again light up a disease such as that which had terminated.

Mr. Chas. Hawkins inquired whether the author had enumerated all the cases he had met with in his practice, or whether instances had occurred to him which had not terminated so successfully. He (Mr. Hawkins) should be very reluctant to interfere with a well anchylosed joint, especially the hip-joint, where extensive disease had existed. The cases related by the author certainly appeared to be remarkably successful; but he should be glad to know whether there was any return of the disease, or whether the patients had, in any case, been left in a worse state than before the extension. He had seen great improvement in the shape of extremely distorted joints effected by properly applied instruments, without either the division or rupture of the tendons.

Dr. Wood had seen the case of the officer of artillery mentioned by the author, and could testify to its successful termination.

Mr. T. S. Wells had seen Langenbeck's practice in Berlin, and testified to the groundlessness of the fears expressed by Mr. Hawkins as to the after-results of the system. He had seen the operation performed in six cases. In two instances it was upon the elbow-joint after a fracture of the internal condyle, in two or three upon the hip-joint, and in one or two upon the knee-joint. In none of these cases did a bad symptom present itself. The patients were placed fully under the influence of chloroform, and in one instance the operation was performed a second time. In consequence of the successful issue of these operations, he (Mr. Wells) had been encouraged to resort to the proceeding in a case in which the internal condyle and the humerus having been fractured, the limb was firmly flexed upon the arm. It yielded, however, to extension, and motion was re-established without any ill consequences whatever.

Mr. Hutchinson bore testimony to the little danger which was incurred in breaking down adhesions of the knee-joint—an operation frequently performed in the larger hospitals of London. In only one or two cases had he seen any considerable amount of inflammation follow the proceeding. He could not give a decided opinion as to whether the plan recommended offered any material advantages over the one in common use at the Orthopædic Hospital. He thought, however, in his own practice that he should prefer the latter mode of dividing the tendons, and procuring gradual extension by an apparatus. Mr. Brodhurst had referred to excision in some of his cases —an operation which had never suggested itself to him (Mr. Hutchinson)—an operation, in his opinion, only justifiable when acute disease was going on, as the alternative of amputation.

Mr. Brodhurst had brought the subject before the Society, in consequence of a statement made at a medical meeting in Vienna by Baron Dumreicher, that the division of tendons was necessary, and that extension alone was required in cases of partially anchylosed joints. He believed, from the cases of Langenbeck and Louvrier, that the tendons ought to be divided in cases where great rigidity existed. He had seen no evil effects from extension, except a rather serious inflammation in one case; but this subsided, and motion was established. The author had not found it necessary to divide the ligaments, though there might possibly be cases in which that operation would be expedient. He should hesitate to extend the limb immediately after the use of the knife. He had only had thirteen cases, all of which had terminated successfully. In one of his cases resection had been suggested, and it was on that account that it came under his care.

MEDICAL SOCIETY OF LONDON.

Dr. Chowne, President.

Mr. **Canton** exhibited a drawing of an instance of what has been termed

PROTUBERANTIA SCLEROTICALIS,

by Von Ammon—an arrest of development of the globe of the eye when there is an inclination of the globular axis toward the optic nerve, and therefore producing a bulging of the sclerotic toward the external side of the entrance of the nerve. The same condition was present in both eyes which had been removed after death from an elderly female, who during life had been remarkable for the unusual prominence of the eyeballs. A drawing was also shown of similar specimens, figured in Scarpa's work on the Eye, this author having given the name of "staphyloma of the sclerotic" to this remarkable condition. Mr. Canton observed, that though procidentia oculi was ordinarily found associated with an unhealthy or anæmic state of the system, often associated with bronchocele, and occurring in comparatively young subjects, the present case afforded an instance of the peculiarity seen in a healthy, an aged, and a very fat female.

Dr. **Willshire** exhibited a specimen of one of the less common forms of

MALFORMATION OF THE LOWER BOWEL.

The descending colon terminated as a blind pouch, fixed at its terminus by cellular tissue to the bones of the sacrum, about an inch and a half above the anus. The latter existed as an opening for the length of a half or three quarters of an inch, when it was closed by a firm membrane. The child lived six days, dying with peritonitic and enteritic symptoms.

Dr. Willshire also laid before the society a kidney of the same child, showing "uric acid infarctus." He recalled to mind that, early in the present session, he had shown the presence of the "infarctus" in a child dying during the act of labour, after having breathed, but not having been separated alive from the mother. Since then he had examined the kidneys of a child who had died during the act of labour, but who had not breathed, and in whom no "infarctus" was found; of more than one child who died (two days it was supposed) before labour commenced, and in whom no "infarctus" was found; and the present case was one where life was prolonged for six days and the "infarctus" existed. These instances illustrated the four different aspects of the question. There was yet a fifth to be sure; but he could scarcely hope to have cognizance of this: it was where the child, being ripe and alive, is removed by the Cæsarian operation from the mother, but being dead when separated from her, has neither breathed nor felt the effects of the act of parturition. Would, in such a case, the "infarctus" be found? He believed not.

Mr. **de Meric** mentioned the case of a little boy, two years old, who had lately been brought to the German Hospital by his mother. The latter stated to Dr. Lichtenberg, the resident medical officer, that the child had been playing on the rug, and that on getting up he could not walk, expressing much pain when trying to rest on the left leg. Dr. Lichtenberg found that the pain was referred to the ankle and sole of the foot; and examined the region carefully without being able to discover a fracture, contusion, or inflammation; but the child cried very much whilst the limb was being handled. A roller and pasteboard splint were put on as a precautionary measure, and the mother desired to call again. When Mr. de Méric saw the little boy, he likewise failed in discovering any osseous or other lesion; but whilst looking at the sole of the foot, he noticed a small black spot, which, on close examination, was found to be a metallic substance. On seizing it, Mr. de Méric drew out a needle, about an inch and a half long; this circumstance explaining the obscure portions of the case. He had brought it before the fellows as a similar kind of accident might possibly come before other surgeons.

Mr. **Jabez Hogg** and Mr. **Stedman** related the case of the late Dr. Rowland, who, on putting on his boot, felt something prick him. He thought it was the lining of the boot, and took at first no notice of it. There was subsequently considerable pain and irritation about the os calcis, and the part was cut down upon. No needle was found. The aid of a powerful magnet was called in, and the presence of a needle was indicated by it. Another cut was made over the spot to which the magnet pointed, the needle was exposed, and drawn out by the magnet.

Dr. **Ryan** mentioned the case of a boy who had swallowed a pin, and in whom, two months subsequently, it presented itself point first in the deltoid muscle.

Mr. **Rogers Harrison** related a case in which a needle was so firmly imbedded in the ball of the thumb as to require a pair of carpenter's pliers to extract it.

Mr. **Price** read a paper entitled,

THE TREATMENT OF CERTAIN DISEASES OF THE KNEE-JOINT BY THE OPERATION OF RESECTION.

In bringing the subject under the notice of the Society, the author stated that he had but one aim in view—the advancement of a great improvement in the treatment of diseased joints. He then went on to say that nearly seven years had elapsed since the revival of the operation by Mr. Fergusson. During this interval the subject had excited the greatest attention, and many opinions had been offered regarding its value and its right to be admitted as a recognised operation in surgery. It could not be denied that the general feeling had been obnoxious to its admissibility, and although it had been approved by many excellent authorities, it had, nevertheless, been condemned, in a manner, perhaps, unprecedented in the history of surgery. Opinions had been expressed by many quite incapable of forming a correct judgment, and many whose high attainments had eminently fitted them to be impartial judges of the merits and faults of the operation, had, with a spirit unbecoming their character and dignity as surgeons, placed themselves in direct opposition to every improvement and suggestion connected with its advancement. It was admitted that many errors had been committed, and that the intentions of the operation had on more than one occasion been overstrained, yet in the limited number of cases recorded, a success had been achieved, which forcibly disposed of all theoretical objections which had been offered, and fully warranted a more extended trial. The author then eulogized Mr. Butcher's labours in connexion with the subject of resection, and thought that the ancient motto, "Nemo ex libris evasit artifex"—no man becomes a workman from books—was, perhaps, appropriate as applied to himself on the present occasion, as the remarks he had the honour of making to the Society were derived entirely from experience. Twenty cases of the operation had fallen under his immediate notice—one fifth of the entire number which had been recorded since it was adopted by Park in 1781. Three of these operations had been performed by himself; in the remainder he had been either an assistant or an interested spectator, and had enjoyed the privilege and opportunities of watching the subsequent treatment, which had enabled him to accumulate a mass of information and facts, which had strongly impressed him with the value of the operation on all suitable occasions. The author then lamented the frequency of amputations when resection was not only admissible, but a right and superior operation. The principal affections of the knee-joint, which are more or less amenable to the operation of resection, were classed under the following heads:—

1st.—Inflammation of the synovial membrane, acute and chronic.

2nd.—That class of affections which Sir B. Brodie includes under the title of "where the synovial membrane has undergone a morbid alteration of structure."

3rd.—Where ulceration of the articular cartilages had arisen as a primary affection.

4th.—Scrofulous disease of the cancellated ends of the bones entering into the formation of the joint.

Discarding all very acute cases of these affections, with their various complications, few surgeons probably could be found who would venture, on practical grounds, to dispute that these diseases are frequently amenable to the great conservative operation of resection. With regard to cases of acute inflammation of the synovial membrane demanding prompt removal of the source of irritation, the author believed resection was, as a general rule, unwise. The acute nature of the symptoms, the sympathy of neighbouring structures, and of the entire system, with the unfavourable condition in general of the patient, were sufficient reasons for preferring amputation. The danger following resection in such cases was the liability of the ends of the bones to take on an unhealthy action. Experience had incontestably proved that such an untoward occurrence was very apt to ensue. Pyæmia had on several occasions carried patients rapidly away, and acute necrosis had also quickly terminated in death, or demanded immediate amputation, provided a limitation of the inflammation, and subsequent exfoliation of the part, could not be expected. In the more chronic forms of synovial disease, the operation of resection was of far higher value. In cases of this class, not by any means uncommonly met with amongst the poorer classes, the proceeding had frequently been resorted to with much benefit. During the last six years, the statement of an eminent author (Brodie "On the Diseases of the Joints"), "Fortunately in this extremity an accurate diagnosis was of no great importance, as it can lead to no essential difference in the surgical treatment of the case," had been disproved, for amputation had been superseded by the more humane operation of resection. The author, however, was by no means inclined to admit that such cases were the most favourable for the operation, but he did admit that *they* could be, with propriety and judgment, treated in this way much to the advantage of the patient and to the credit of surgery. If there be in reality any value in the operation, the author believed it to be exemplified in its adaptation to the treatment of various cases which were included under the title of "where the synovial membrane has undergone a morbid change of structure." A moment's consideration would convince the most obnoxious dissenters to the operation of its great advantage. There was seldom seen any extensive and acute inflammation breaking down fibrous, cartilaginous, and bony structures; very often no emaciation, and long suffering inducing hectic and irritative fever. The patients were for the most part otherwise healthy, and, perchance, submitted to an operation more for the sake of convenience and comfort than as an escape from suffering and death. These, and other features, would pre-eminently recommend resection to the more general consideration of the profession for affections of this class. In cases of acute ulceration of cartilages, occurring as a primary affection, the author was led to take an unfavourable view of resection, provided the symptoms were extreme, and especially if evidence existed of the participation of the bones in the disturbance. In cases of a more chronic or subacute character, the operation must be looked upon as highly advantageous, as experience and facts have attested the good effects of its adoption on many occasions. It was, however, to the employment of resection in scrofulous disease of the knee-joint, commencing in the cancellated tissue of the bones, tibia and femur, that the author particularly wished to direct attention. Great stress was placed upon a right appreciation of an operation more or less applicable on many occasions. The pathological changes that take place in the meshes of the ends of the bones, and their cartilaginous coverings, were well illustrated by some beautiful drawings, from the pencil of Dr. Westmacott, from cases which had been treated by Mr. Fergusson, and by the author. From the history of cases of this class in various stages of disease that had been treated by the author and other surgeons, it appeared that resection was an operation highly useful in the treatment of joints extensively destroyed by strumous disease, and that extensive destruction of the cancellated ends of the bones is of little consequence, provided all the disease be removed from contact with the healthy parts. The extent to which parts so diseased might be removed, was illustrated by a remarkable case, under the care of Dr. Jones, of Jersey, in which the upper half of the tibia, as well as the entire articulation, was removed with success. These being the principal classes of disease for which the operation had been undertaken, the author next proceeded to inquire how it was, that considering the apparent advantages of resection, so much dispute regarding its employment had arisen? This was attributed, in a great measure, to the general ignorance, but professed knowledge, that existed regarding it, and also to the lethargy and unwillingness that prevailed amongst many surgeons to adopt a new proceeding, or which, having been adopted on one occasion, and signally failing, through want of due skill and judgment, had not been repeated, the ill success being unfairly attributed to the operation. Many teachers had attempted to instruct their pupils on a subject concerning which they were themselves not particularly enlightened, and in so doing had laid themselves open to the criticism of the better informed. The operation had lately been denounced by Mr. Syme as "bloody and formidable;"* and yet, at the time, that gentleman was somewhat acquainted with the operation, as he distinctly taught and wrote that "there is not much bleeding, but one or two of the articular branches may require to be tied."† If, then, the former expression has reference *solely* to the subject of hæmorrhage, occurring at the performance of the operation, Mr. Syme, without any further experience, would appear to have contradicted himself. A comparison between the results of resection and modern amputation of the thigh was shown to be unfair. If comparisons were to be drawn between resection and another operation or injury, the author would feel more inclined to liken it to a severe compound fracture. With regard to the performance of the operation, the advantage gained by not removing the entire epiphysis was shown to be advantageous in two ways. Osseous union would be more likely to take place, and the new product would be in many ways better adapted as a bond of union; and, secondly, should unhealthy inflammation of the ends of the bones succeed in destroying the bony structure, provided the epiphysis have not been removed, the mischief may be entirely confined to this portion of the bone. Such an unfortunate occurrence was apt to arise from two causes: damage inflicted on the ends of the bones at the time of the operation, or during the after-management. Both these mishaps the author had seen, on more than one occasion, to prove fatal. He must again call attention to the great importance of correct after-treatment, and strongly recommended the splint described on a former occasion by himself. Division of the hamstring tendons had been devised, "as all tendency to after-mismanagement is checked." Such a statement had been made partly on supposition, for hideous deformity had more than once risen from so doing; it was therefore necessary duly to consider the propriety of this proceeding.

Many excellent water-colour drawings and casts of limbs after the operation were exhibited, showing the condition of various specimens of diseased joints which had been treated by resection.

Mr. Henry Smith exhibited a little boy, whose knee-joint he had removed. The author had alluded to this case as showing the excellent condition of the limb. The operation had been performed on account of a strumous abscess in the head of the tibia. The little patient fully convinced the Fellows of the advantage of resection over amputation in this particular instance.

Mr. Canton expressed himself ignorant of the operation and its results, but he would like to know from the author more in detail the various steps of the operation, and the subsequent treatment required. He hoped the author, having had such considerable experience in the operation, would enlighten him on a few practical points of most interest.

The author then described at some length the way he performed the operation. It was the same in most respects as was taught him by Mr. Fergusson. The mode of sawing the bones, and the care required in bringing the osseous surfaces together, were dwelt upon at some length. The propriety of leaving the patella in certain instances, and the absolute necessity of perfect quietude of the parts during recovery, was also insisted upon.

Mr. Walton must congratulate the author for bringing publicly before the profession, through the medium of the society, his experience of this much-abused operation. Those fellows who recollected how much he himself had been "bullied," on an occasion in which he had submitted his opinions regarding the operation of removal of the head of the thigh-bone, would feel grateful to the author for having had what he might call the moral courage to recommend the more frequent performance of the operation. He (Mr. Walton) was well aware of the untruthfulness of statistics, and believed that all surgeons were not acquainted with the great fatality of cases of amputation. He had good reason for saying, that in this metropolis the fatal results were not always honestly reported. One hospital surgeon had told him that the operation of amputation of the thigh, performed at the institution with which he was connected, proved fatal in almost every second case. With a knowledge of this fact, he quite agreed with the author in strongly recommending resection to the consideration of the profession. There was one remark which fell from the author with which he was much struck—viz., the extreme rapidity in which reparation was brought about in strumous cases. He had noticed this particularly in one of his cases of resection of the head of the thigh-bone. The subject of the operation was decidedly tuberculous, and although dying three months after the operation with tubercle in every organ of the body, with extreme emaciation, repair had to a great extent taken place between the upper portion of the femur and the wing of the pelvis.

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* Vide Introductory Lecture, by Mr. Syme, in The Lancet.
† Syme on Excision of Diseased Joints, 1831.

Mr. Gay observed, that great praise was due to the author for bringing the subject under the notice of the Society and of the profession. He (Mr. Gay) had some years ago condemned resections of joints, but now, thanks to a more extended knowledge of the subject, he had altered his views, and was fully prepared to recant the expressions which he had made use of, and which, unfortunately, had been chronicled against him. He was gratified to find that the author had considered a very important point at so much length—the selection of suitable cases for the operation; a great deal of success of course would depend upon so doing. The author, from his considerable experience in diseases of the joints, was entitled to be heard regarding this somewhat new operation; and he must say that what he had heard this evening had impressed him with the value of the operation on certain occasions. Before sitting down, he would like to ask the author, 1st, some points regarding the diagnosis of strumous disease of the knee-joint; and, 2nd, how he was enabled to recognise, by means of the microscope, the deposit occurring in the cancellated portions of the bones as true tuberculous matter, and what was its true nature, as many excellent pathologists had alluded to the disease as of rare occurrence, while other good authorities had recognised the affection as one by no means rare.

Mr. Henry Smith congratulated the author upon the success which had attended his cases. It was a great point for a single surgeon to have had three successful consecutive cases. It was, in his opinion, the care with which the cases had been selected, and the manner in which the after-treatment had been conducted, that had led to this favourable result. He (Mr. Smith) had seen much of this operation, and he certainly agreed with the remarks that had been made regarding the more frequent employment of resection in cases of strumous disease of the joints. He wished to make a few observations on the subject of resection. It was with pleasure that he referred the Society to the able memoirs of Mr. Butcher, of Dublin. A success had been obtained that was most gratifying; for out of eighty-two cases recorded, only *twelve* deaths had taken place. Comparing these results with amputation, it must be admitted that resection is not such a fatal operation. Mr. Phillips had, in a paper read before the Medico-Chirurgical Society, proved that the fatality of amputation of the thigh was seldom less than one in four. The cast exhibited by the author showed the excellent condition of the limb, and it was by far the best result that he had seen. It was much to be regretted that the cause of resection had been injured by the opinions of many surgeons. Mr. Syme had spoken of the operation in a manner which was incorrect. In a recent lecture, mentioned by the author, Mr. Syme had called it a "bloody and formidable" operation; and this in the face of the statements of such men as Mr. Jones, of Jersey, and Mr. Fergusson. The former surgeon had operated on nine occasions, and he had not had occasion, in any instance, to place a ligature on a single vessel. Mr. Fergusson had likewise but occasionally to place a thread on one or two of the articular branches. As far as he was aware, no good argument had ever been used against the more general adoption of the operation; and he must again congratulate the author for the interest he had taken in the operation, and for the manner in which *he had* brought the subject under notice.

Dr. Brinton, although engaged in the practice of medicine, could not help giving his assent to the excellent paper read by the author. It was evident from the statistics adduced, that the operation was one worthy of much consideration. He agreed with the author in his remarks upon the importance of paying due attention to the union of the epiphyses with the shaft of the bone. He would wish to hear the opinions of the author regarding the anatomy of the connexion between these two parts more at length, as influencing the results of the operation.

Mr. Brodhurst read a paper

ON THE TREATMENT OF LATERAL CURVATURE OF THE SPINE.

The author commenced by stating the various causes of lateral curvature, and he showed that some varieties of curvature are alone amenable to treatment; he affirmed that it was not difficult to discover the cause of curvature, and he pointed out the means by which an accurate diagnosis might be made. These several points were elucidated by means of casts. He then alluded to primary and secondary curves, and explained how to distinguish the primary curve. Through ignorance of these questions, it was customary to treat the dorsal curve alone, whether a primary or a secondary curve; and, consequently, the lumbar curve was frequently increased by attempting to remove a compensating dorsal curve. He showed that a compensating curve was an effort of Nature to restore equilibrium, and that though it were removed, the primary curve and the cause of distortion would remain. Much scepticism, he said, existed with regard to the utility of spinal instruments, which had been occasioned by the application of instruments, to every form of curvature, without inquiry being made as to the cause of distortion, as though every form of spinal curvature could be removed. He alluded to the unphilosophical mode of attempting to remove a rigid spinal curve by lateral pressure, and asserted, that to overcome such a curve by such means was a physical impossibility. The result of such treatment was to induce flattening of the ribs, but no diminution of the spinal curve. Instead of lateral pressure alone being employed, he showed that it was necessary to unbend a spinal curve; and that although slight curvature might be removed by support only, a rigid curve required to be unbent. The author then described the manner in which this was to be effected, and explained the spinal apparatus and its action as follows:—"The instrument consists of a band fitting accurately to the pelvis, from which rise two lateral uprights, the heads of which rest in the axillæ, and support the shoulders. These uprights elongate, so that they may be raised to any desired height; they also move in the segment of a circle at their junction with the pelvic band: consequently one or both may have a perpendicular or an oblique direction. Springing from the centre of the pelvic band is a perpendicular steel bar (vertebral stem), which rises to the upper extremity of the dorsal curve. This stem is united by a transverse band (scapular band), with the crutches. Thus a solid frame is produced, which cannot be tilted by any amount of pressure. The vertebral stem supports three levers, all of which are moved by rack-and-pinion joints. The lowest of these gives attachment to the lumbar webbing band; to the middle lever is attached the dorsal webbing band, and the upper lever is connected with the shoulder ring. The lumbar and dorsal webbing bands are further attached in front to two perpendicular levers, which are placed on the anterior surface of the pelvic band, and which, as the other levers, are moved by rack-and-pinion joints. Now, when the lumbar is the primary curve, its concavity is supported by the lowest webbing band, and the dorsal band is applied obliquely in such a manner that it shall act on the inferior extremity of the dorsal curve by uplifting it. This action of the instrument will tend to depress the pelvic band. A webbing band, fastened to a lever in front, and to the pelvic band behind, passes over the highest ilium. This, by its action on the lumbar curve, tends to restore the horizontal position of the pelvis; and the combined action of these four bands is to unbend the lumbar curve. When the dorsal is the primary curve, its convexity is also supported by a webbing band, while the lumbar band is applied to the upper extremity of the lumbar curve to act upon it obliquely in a downward direction, and the upper extremity of the dorsal curve is equally acted on by the shoulder sling, which, embracing the scapula, and lying upon the ribs which correspond to the extremity of the dorsal curve, acts upon them to unbend the curve. Thus the convexity of the curve being firmly fixed, there is power to uplift and depress the extremities of the curve, which cannot fail to unbend it if the positions now laid down are attended to. When much rotation of the vertebræ is superadded to lateral curvature, a metal plate, movable with rack-and-pinion joints, is attached to the perpendicular vertebral stem of the instrument; by means of which adequate pressure can be made from behind forwards.

Mr. Hunt observed, that the age had not been mentioned by Mr. Brodhurst at which he believes treatment to be no longer practicable; and he inquired the ages of the several patients to which reference had been made, and from whom the casts which were exhibited had been taken.

Mr. Harrison remarked, that it had been stated by the author of the paper, that three fourths of the cases of lateral curvature of the spine arise from increased muscular action, and from debility; and inquired if such cases could with safety be treated at any period without mechanical support, or, if not, how soon support ought to be employed.

Dr. Ryan had used a similar instrument to that now exhibited with great advantage, and he remarked that the health of the patient was not injuriously affected by a portable instrument, as was too often the case when the recumbent position was long maintained.

Mr. Adams doubted whether spinal instruments of any kind were useful after twenty-six years of age; and he believed that a pliable curve could alone be acted on by mechanical means. He had no faith in any power to unbend a rigid curve, or to act upon such a curve by lateral pressure; and he thought that gymnastic exercises and the recumbent position were more useful than any instrumental means that might be adopted. Yet he admitted that cases existed in which support was necessary to relieve pain; and he cited a case in which considerable pain had been relieved by uplifting the depressed ribs. He doubted if pressure could ever be borne in the axilla, for he had always found that such pressure was followed by swelling of the extremity. He observed that the instrument now exhibited was different to that originally constructed by Mr. Errard, and inquired whether the alterations had been made by Errard.

Mr. Potts could not subscribe to the opinion of Mr. Adams, that instrumental interference was useless. He had seen cases, especially from fifteen to twenty years of age, in which great advantage had been derived from the use of spinal instruments.

Mr. Adams remarked that slight pliable curves might be removed by means of apparatus, and reiterated his opinion that rigid curves could neither be unbent nor affected by lateral pressure. He stated that he had lately examined a spine in which four curves existed, where neither pain nor other inconvenience had ever been experienced. The treatment with which he should be content, in the instance of a single curve, would be, if possible, to transform it into four short curves. He thought that, if such a result could be obtained, more benefit would be derived than from any other mode of treatment. No ill result could occur except some shortening of the trunk.

Dr. **Chowne** was sorry to have heard so much said against the utility of spinal instruments. He had seen much advantage from their use, and thought that, although the correct form of apparatus might not yet perhaps have been discovered, that apparatus was likely to prove most useful which encased the patient in the most efficient manner, and which afforded the most support.

Mr. **Brodhurst** replied that the ages of the cases to which he had referred varied from sixteen to thirty-eight years, and that the three cases to which he had especially directed attention were taken at eighteen years of age, twenty-three years, and thirty-two years respectively. The improvement which had taken place in these cases was shown by the photographs which had been subsequently taken, after eight months and after fourteen months of treatment. These cases were instances of very severe distortion, and yet it was shown what treatment had been able to effect. He was surprised to hear the opinion expressed by Mr. Adams with regard to the benefit which might be expected from mechanical treatment, and expressed his belief that, when the several curves were properly acted on, distortion might generally be overcome, but that distortion could not be removed by acting only on one curve. Support could not be applied too early when a spinal curve had been formed; but it was not necessary to use an elaborate instrument when curvature was very slight. Support to the spine and to remove the weight of the shoulders was in such cases sufficient. All the cases referred to had been treated on the principle of unbending the curve, by means of an instrument of excellent construction made by Mr. Bigg. This instrument was elaborated from one far less perfect, which was constructed by Mr. Errard. Age was a very imperfect indication as to the rigidity of spinal curves. At sixteen, or even earlier, much rigidity might exist; whilst, on the other hand, a curve might remain pliable until thirty or thirty-five years of age. Pain also was very variable; it existed both with long and with short curves.

PATHOLOGICAL SOCIETY OF LONDON.

Dr. Watson, President.

Mr. **Athol Johnson** showed a

FATTY TUMOUR GROWING FROM THE INTERIOR OF THE SPINAL CANAL.

The little tumour exhibited, about the size of a very small orange, was removed by operation, at the Hospital for Sick Children, from the lower part of the back of a male child, ten months old. The tumour made its appearance very soon after birth, and was situated over the sacrum, extending rather to the right of the middle line. It increased slowly in size till the beginning of January, when it began to enlarge very rapidly; and the child now suffered from convulsive movements of the right lower extremity. The swelling was soft, feeling like a mass of fat, and ill-defined at its base. On proceeding to operate, after cutting through a mass of subcutaneous fat, the smooth glistening surface of a capsule, surrounding a distinct fatty mass, constituting a separate tumour, was exposed. This was found to be adherent to the parts beneath, requiring careful dissection. After removing it, an aperture, large enough to admit the end of the finger, was seen in the posterior wall of the sacral canal, through which the tumour seemed to have made its way. Rising up to the level of this opening was a soft mass, apparently formed by the membranes of the cord, and which exhibited a very distinct pulsatory movement synchronous with the respiration. The tumour was partially adherent to these membranes, from which it was dissected off, leaving only a little granular fat adhering to them, without any opening having been made in them. The child did well after the operation, and the convulsive movements of the limb have ceased. The father, it may be mentioned, had a fatty tumour removed from his back. Mr. Athol Johnson remarked, that there were two or three points of interest connected with the case. In *the first* place, the existence of a fatty tumour at all, at such an early age, is uncommon, this patient being considerably younger even than in the case reported by Mr. Pollock at the beginning of this session. Secondly, the situation was very remarkable, growing, as it did, from the interior of the spinal canal, and being accompanied by a deficiency in the bony walls of the sacrum, allowing the tumour to make its way within reach of the knife. Lastly, the pulsatory movement of the cerebro-spinal fluid, synchronous with the respiration, and which was very perceptible to all present at the operation, was interesting, as, though minutely described by Magendie as well as by Cruveilhier, its existence in the spine is not perhaps universally known, or at least has not been actually demonstrated in the human subject.

Mr. C. **Brooke** exhibited a specimen of

ULCERATION OF ONE KIDNEY, SLOUGHING OF THE BLADDER, AND FISTULOUS OPENING FROM THE BLADDER INTO THE RECTUM.

The subject of this disease, a middle-aged man, was admitted, under the care of Mr. Brooke, into the Westminster Hospital with extensive extravasation of urine, which had existed for four days previously. The distension was freely relieved by incisions, and the scrotum was saved; but the integument of the perinæum appeared to have almost lost its vitality, and a large portion subsequently sloughed; after which the urine escaped freely from an orifice at the bottom of the wound. A small catheter was introduced and retained, through which the urine flowed, and was occasionally ejected per saltum. Nevertheless, the catheter could not be satisfactorily passed into the bladder; the point probably hitched in the vesical orifice of the fistulous canal, which appears to be of long standing. The patient stated that no instrument had been passed for four years, and for some years previously one of very small size only. The fistulous communication with the rectum was inferred from the passage of some apparently vesical mucus per anum. The patient sank from exhaustion. The slough contiguous to the neck of the bladder probably comprises the strictured portion of the urethra. There was also a very much constricted congenital phymosis.

Dr. Cockle showed a specimen of

INTRA-THORACIC (VASCULAR) CANCER,

occurring in a married female, aged twenty-eight. The mass was tripartite, exceeding in aggregate bulk an adult head, and of so semi-fluid a consistence that, in detaching it from its connexions, large quantities of grumous blood and encephaloid matter escaped. The portions of the mass were invested with a fine bounding membrane of glistening character. The larger rounded portion occupied nearly the entire left side of the chest, crushing the lung along the vertebral column, and adhering to its anterior face. Firm adhesions existed on this side throughout, particularly between the tumour, spine, and mid-portions of the fourth, fifth, and sixth ribs, which latter were markedly softened, and formed a medium of connexion between the tumour and an oblong swelling on the outer chest wall of some inches in area, corresponding to the left axillary line. The tumour, in its progress, gradually carried the heart before it as far as the right nipple, where, during life, it was seen and felt pulsating. The tumour itself did not extend but slightly beyond the right costal cartilages. By this encroachment, however, together with the displaced heart, the right lung also was greatly lessened in volume, to the extent of at least one-half, and bound down by adhesions. The second portion of the tumour, the size of an orange, nearly separate from the larger mass, lay behind the manubrium sterni, and a still smaller portion, of fig-shape form, was situated below the xiphoid cartilage. The heart was normal in size and structure. Considerable effusion existed in the peritoneum, as also excessive infiltration of the lower extremities. The symptoms and physical signs in this case, in its early and middle stages, were those of relapsing pleurisy, with copious, and, possibly, circumscribed effusion. One important point, however, to be mentioned, was the increase, by measurement, over the left mammary region; but, since here tenderness and a markedly liquid impulse during cough existed, the case was, at this period, mistaken by him for empyema, and these signs regarded as marking a tendency to the production of an empyema of necessity; and it was only after an exploratory puncture had been unsuccessfully made, together with the occurrence of the external tumour, that a suspicion was excited of malignant growth.

Dr. Bennett hoped that when the case was published, some fuller account of the physical signs during life would be given. The case had been in St. Thomas's Hospital, and was at first regarded as one of empyema, but was eventually determined to be one of intra-thoracic tumour. The cardiac displacement was very great. The chest was punctured by a small trocar, and only a little blood followed; but the needle entered the chest as if it contained fluid.

Mr. Sydney Jones exhibited a specimen of

ATROPHIED KIDNEY,

taken from a boy, aged fifteen, who died of peritonitis. With the exception of a mild attack of measles at an early age, he had always enjoyed good health. On making the post-mortem examination, the right kidney was found from two to three times its normal size, but its structure was healthy, and it occupied its normal position. In the place of the left kidney was a mass weighing about one drachm, containing a number of cysts, some few of which were occupied by fluid, but the greater number of them were collapsed, and had corrugated walls. The microscope showed its structure to be made up of fibrous tissue, white and elastic, amongst which were found microscopic cysts, atrophied Malpighian bodies, and altered renal tubes, in such abundance as to leave no doubt of the nature of the specimen. In the situation of the pelvis, three vessels were traced—viz., artery, vein, and ureter. The vein was pervious; the others formed thick ligamentous cords.

Dr. Hare exhibited specimens of

CYSTIC DEGENERATION WITH GRANULAR DISEASE AND ATROPHY OF THE KIDNEYS.

The kidneys were removed from a female, Anne W——, aged sixty-nine, who died suddenly on February 5th. She was intemperate in her habits; had suffered from rheumatic gout, and occasionally from fits, or "convulsions," which from the description given appear to have been epileptic. Mr. H. C. Stewart, who made the post-mortem examination, found much congestion of the cerebral membranes, and an effusion of watery fluid in the cavity of the arachnoid. Both lateral ventricles contained some serous fluid, but in the anterior part of the right one there was, in addition, a large clot of blood which extended into the third and fourth ventricles, and to the base of the brain. The left kidney was small. The capsule, on removal, brought away with it some portions of the kidney substance. The surface of the organ was rough, granular, and mottled, and presented a large number of cysts, which were also abundant throughout the substance of the kidney; they varied from a size just visible to three-eighths of an inch in diameter, and were filled with a thin slightly yellowish-brown fluid, which varied in tint in the different cysts. The right kidney was yet smaller than the left one, but the cysts in it were more numerous and larger. The kidneys presented very good specimens of granular disease combined with cystic degeneration of the organs.

Mr. Mitchell Henry asked if the fluid in any of the cysts had been examined?

Dr. Hare replied, it had not.

The President asked, Was there no anasarca?

Dr. Hare did not know.

Dr. Quain presented a

POLYPUS EJECTED FROM THE STOMACH.

H. C——, a female, aged nineteen years, of robust appearance; had enjoyed good health till about twelve months ago, when she had an attack of herpes zoster on the left side. This yielded to the usual treatment, and in about a week after the attack she regained her usual state of health. Menstruation has always been regular. A short time after the attack of herpes she began to suffer from distension of the stomach, chiefly after meals, which was attributed to flatulence. This was subsequently followed by pain, which was always increased after eating. The pain at first only presented slightly and occasionally through the day, except after meals; became very bad during the night, and her sleep was disturbed. For the last three months she has lost much weight, during six weeks as much as a stone and a half. The bowels have always been regular; but the urine has been turbid on cooling since the attack of shingles, sometimes plentiful in quantity, and sometimes scanty. She has frequently felt faint with the pain at the stomach, which latterly has also extended to the left side. No sense of soreness or tenderness externally. About a month ago Mr. Beardsley prescribed an alkali and bitter infusion, which relieved her pain somewhat, and the flatulence, &c. The case being considered merely as a derangement of the stomach, he heard no more of it. On Tuesday last, when going to her usual employment, she felt suddenly faint, and vomited the tumour laid before the Society. At the time of its ejection she felt what appeared to be another rising in her throat, but she swallowed it again. She felt very faint and poorly all the subsequent day, with a great deal of soreness at the pit of the stomach, extending to the left side. Her appetite has failed her during this week; but she now feels as well as before she vomited, though she has at intervals ejected a little blood, &c., which has risen in her mouth. The pulse is 84. Her appearance is now somewhat sallow and pale. She often feels her hands and fingers numb, and she suffers from a constant creepy feeling of the flesh. For the last twelve months she has had much flatulence, and her appetite has varied, sometimes rather voracious, and at others the contrary. The bowels have always been quite regular, and she has never suffered from diarrhœa. The tumour, which is about the size of a small chestnut, appears to have been attached by a very small pedicle to the mucous coats of the stomach. It was very firm when vomited, and like an unshelled egg. It appeared to be very vascular, and the anastomoses of the bloodvessels on its surface were well discerned by reflected light, and indeed by the unaided eye. The cut surface of the tumour presented small foramina or cells, and the specimen, when examined by the microscope, was found to consist of a mass of connective tissue, bloodvessels, and granular cells, and granular particles, apparently fatty, covered by a layer of mucous membrane. The membrane consisted as usual of a basement layer, the surface of which was covered by a layer of columnar epithelium. These appearances are well seen in the figures drawn by Mr. Tuffin West from his own dissection. The structures described show the tumour to be of a simple character, and corresponding to that known as the gastric polypus. It is a rare form of disease, not often reaching the size of the present specimen. Mr. Beardsley very properly assigns the presence of the gastric symptoms to the existence of this or similar tumours, some of which probably still remain, as the symptoms, though mitigated, have not disappeared. He also recognised a connexion between the occurrence of the shingles and the presence of this tumour.

Mr. Mitchell Henry referred to a tumour exhibited on a former occasion, which hung down into the larynx and trachea.

Mr. Quain said this specimen was similar to Mr. Partridge's case.

Dr. Hare asked if the dyspnœa was relieved after vomiting?

Dr. Quain.—No, it was not.

Dr. O'Connor said Mr. Holt's case was *that of* a fatty tumour.

Dr. Peacock exhibited several

SMALL CRETACEOUS MASSES, EXPECTORATED BY A PERSON WHO WAS OTHERWISE IN GOOD HEALTH.

The patient was a middle-aged female. She stated that about four years before she had expectorated two similar bodies, and had been quite well since that time. The pieces exhibited were eight in number, and were expectorated at two different times; they varied from the size of a pea to one-fourth of that size. At the time the patient had a hard cough, and the feeling as of something in the throat; but there was no material amount of mucus expectorated with them, but only a few streaks of blood. After the pieces had been voided, the cough soon ceased entirely, and the patient, on careful examination, presented no evidence of pulmonary or other disease. Dr. Peacock mentioned that most generally, when cretaceous masses were expectorated, it was in patients who had laboured under phthisical symptoms, and had recovered to a more or less marked degree, and then relapsed. In the present instance—and it was the only one of the kind he had seen—there was no reason to suppose that the lungs were affected, and he was therefore led to believe that the cretaceous bodies were extruded from bronchial glands which had been tuberculous in early life.

The **President** asked if any other substance was with it, such as blood?

Dr. **Peacock**.—There were some streaks of blood, the patient told him.

Dr. **Markham** exhibited a specimen of

OPEN FORAMEN OVALE.—LOUD SYSTOLIC BRUIT: WHAT WAS ITS CAUSE? TUBERCULOSIS OF THE LUNGS.

The little girl, a delicate child, aged four, in whom these conditions were found, was seen by him on Feb. 8th. He heard then a loud systolic bruit along the base of the heart, in the whole sub-clavicular region, but it was scarcely audible below the nipple. On the 17th the child was seized with violent convulsions. The following day the bruit was heard louder and rougher than before; it was now audible over the whole precordial region, and up the right of the sternum, also over the upper half of the interscapular space on both sides of the spine. The respiratory murmur was everywhere loud and clear; the percussion good; no râles perceptible. The respiration was easy, the skin hot, the pulse rapid; there were convulsive twitchings of the left shoulder and arm; the child was drowsy and stupid. The mother now said that the child had been always subject to cold, bluish feet, and pointed out some bluish veins around the finger-nails. These were the only symptoms, very slightly marked, of cyanosis. Necropsy showed that the heart was perfectly sound, save in respect of having an open foramen ovale. Was this opening the cause of the bruit? The question excited some discussion. Drs. Quain and Peacock knew of no case of open foramen ovale in which a bruit had been heard during life where some other abnormal condition —e.g., constriction of pulmonary artery—had not co-existed. They could give no account of the bruit; it seemed anomalous. Dr. Markham argued that the bruit was formed at the open foramen ovale, and that the fact was not to be rejected simply because such a bruit had not yet been recognised in auscultation. His reasons were; that there was no other cause to which the bruit—on several occasions most carefully observed—could be attributed; that there was nothing in the formation of the parts involved repugnant to the idea of the formation of such a bruit. Thus, the bruit being coincident with the systole of the ventricles, necessarily occurred during the diastole of the auricles. Certainly such a bruit could not conceivably arise during the auricular systole, for the foramen ovale being open, the blood in both auricles would then be subjected to a like pressure, and therefore no intercurrents could occur; but during the diastole, the blood, rushing into the auricles from the large venous trunks, might readily pass through the abnormal opening, and throw the valve into such vibrations as would occasion an audible murmur. And the valve, in this case, had this peculiarity: it was attached to the upper and lower parts of the opening, on the left side of the septum, but was free elsewhere, and would allow a current of blood to pass readily from the right to the left auricle, and then be thrown into vibrations. The objection that the current of the blood in such case would not be strong enough to produce a bruit, is answered by the fact, that weak currents of blood will occasion loud bruits under certain conditions; witness the occasional roaring bruit produced by the gentlest pressure of the stethoscope on the cervical veins of the anæmic, and witness also the loud bruit sometimes heard even over the radial artery. That such a bruit is so rarely heard during life may be explained by the fact, that where other abnormal states of the heart do not co-exist, there is no cardiac disturbance, and therefore no examination is made of the heart during life to ascertain the fact. And why, again, should it be assumed that in cases of open foramen ovale, associated with other defective states of the heart, in which murmurs were heard during life, that the murmurs always have their origin in those other defective conditions, and never in the open foramen ovale? For such reasons, Dr. Markham thought it more rational to attribute the bruit to the open foramen ovale than to acquiesce in the proposition that some inexplicable mystery involved the subject. Another fact of great interest was observed in this case in connexion with the lungs: seventeen hours before death a most careful examination could ascertain nothing abnormal in their condition, and yet miliary tubercles were found thickly scattered through every lobe of each lung. The possibility of such a thing is admitted, but its demonstration is rare. "Solitary tubercles," says Skoda, "of themselves produce not the slightest change in the percussion-sound; we can only surmise their existence." The fact is readily explicable. The percussion sound is unaltered because healthy, air-containing tissue intervenes between the tubercles; the respiratory murmur is clear because the air enters freely; there are no râles because there is no exudation yet thrown out. The case therefore proves that the absence of physical signs is no proof of the absence of tubercle in the lungs, and consequently condemns as hypothetical the existence of so-called pre-tubercular stages of phthisis, and the deductions drawn therefrom. It seems also to prove the existence of a species of cardiac bruit hitherto unrecognised by auscultators.

Dr. **Theophilus Thompson** asked if there was any blueness of the surface?

Dr. **Markham**.—The child had always cold feet and blueness of the nails, and some degree of cyanosis.

Dr. **Camps** had a case of cyanosis, some years ago, in a girl twelve years old, with a marked and constant bruit.

Dr. **Ogle** had examined 100 children, and found the foramen ovale open in the greater number; there was no cyanosis in these cases.

The **President** asked if the miliary tubercles were the same as is ordinarily seen.

Dr. **Markham** said there was no doubt of it.

Dr. **Hewett** confirmed Dr. Markham in the difficulty of diagnosing tubercles in children.

Dr. Quain said the bruit in cyanosis would depend upon the cause producing it. He heard with consternation that such a quantity of tubercle could exist without physical signs.

Dr. Theophilus Thompson, on looking at the lung, thought there was an average quantity of air present, which would give fair percussion, but he was surprised the respiration sounds were perfectly natural. The presence of an open foramen ovale is not enough to produce a bruit; anything else obstructing the blood will do it. He doubted if the mere passage of blood through the foramen ovale could produce such a loud bruit as that described by Dr. Markham.

Dr. Hare read a similar case, with normal resonance on percussion, and a like condition of lung.

Dr. Peacock said that after the length of time which the discussion of Dr. Markham's communication had occupied he would trespass on the time of the Society only for a very short period. Cases like that mentioned by Dr. Camps, in which there was intense cyanosis, were, in a very large proportion, instances of contraction of the pulmonary orifice, with defect in the interventricular septum, by which the aorta received its blood both from the right and left ventricles. In such cases, therefore, there was a twofold cause for the murmurs which were heard during life—the obstruction at the orifice of the pulmonary artery, and the meeting of the two columns of blood in the ascending aorta. In a case like that of Dr. Markham, however, there was great difficulty in explaining the cause of the loud murmur which had been heard, for there was no apparent source of obstruction. The faulty conformation of the valve of the foramen ovale, he could scarcely think could have occasioned the murmur, for when there was no obstruction at any of the orifices of the heart, he did not think that a sufficient current of blood would pass from one auricle into the other to generate a murmur, and he had several times known the foramen ovale open without murmurs being produced. As regarded the difficulty of diagnosing the condition of the lung in the case, he could to a great degree confirm the accuracy of Dr. Markham's statement. Generally, as had been so well explained by the President in his published "Lectures," in cases of acute miliary tubercle, the symptoms produced were those of acute or subacute capillary bronchitis, and the ordinary signs of tuberculous deposits in the lungs might be absent. In a case which he had seen during the autumn, however, while there were the general symptoms of acute capillary bronchitis, the extreme difficulty and rapidity of respiration, lividity of the face and extremities, &c., the physical signs were absent, there was no rhonchus, and if there was not an entire absence of deficiency of resonance on percussion, there was certainly no marked deficiency of resonance, the only sign being the peculiarly harsh or puerile respiration. In cases where the patient laboured at the same time under cerebral disease, the general symptoms might also, to a great degree, be absent, and there might be little to indicate that any disease was going on in the lungs.

Dr. Risdon Bennett confirmed Dr. Peacock's observations. He asked whether dyspnœa was a marked symptom in Dr. Markham's case, because it is a marked sign of miliary tubercle.

Dr. Markham.—There was nothing remarkable in the respiration.

Dr. Peacock and Dr. Quain were appointed to examine the heart.

HARVEIAN SOCIETY.

Dr. Sieveking read a paper upon

THE ACTION OF IODIDE OF POTASSIUM.

He began by remarking, that, of the remedies which we owe to the advancement of modern chemistry, none had obtained a higher place in the estimation of medical men than the iodide of potassium. There might be some difference of opinion as to its efficacy in this or that class of diseases, or in individual cases, but its general utility as a member of the Pharmacopœia was undeniable. Rarely inducing any unpleasant effects, and, unless administered with culpable carelessness, never giving rise to disturbances in the system of a dangerous and permanently injurious character, it might be classed amongst the safest and most beneficial remedies we possess. Dr. Sieveking observed that the unpleasant symptoms produced at times by the remedy were easily avoided or corrected either by altering the doses or by persevering in the use of the agent; and he then briefly reviewed the general therapeutical effects of iodide of potassium. He observed that, according to the disease in which it was administered, or according to the theory in vogue, it might be called an alterative, an eliminant, or a tonic. Dr. Sieveking, guarding himself against the imputation of attempting to exhaust the subject in a single paper, stated that he wished to bring certain cases and statements before the Society, to show the threefold action of the remedy: 1st, as an evacuant of excessive morbid secretions; 2ndly, as an antidote to organic poisons; 3rdly, an antidote to, and eliminant of, inorganic poisons. With regard to the first class the author stated that although the iodide might be shown to act mainly as a diuretic, it could not be placed in the same category as those agents which operated solely by promoting copious secretions, as the amount of fluid discharged in consequence of its exhibition, did not always bear a definite ratio to the intensity of the disease, and the quantity of the morbid accumulation in one of the cavities. While acting as an eliminant, it also appeared to correct the morbid condition of the blood and the vascular system, which previously induced the disease. In illustration of the more extensively eliminant action of iodide of potassium, Dr. Sieveking brought forward a case of hydrothorax, of an aggravated character, in which the speedy cure appeared to be exclusively due to the salt in question. The author also referred to the eliminative power which iodide of potassium appeared to exert upon hæmorrhagic effusions in the brain.

Under the second head, Dr. Sieveking spoke of the action of iodide of potassium in counteracting and removing the organic poisons which appeared to constitute the materies morbi in numerous diseases. He adverted to syphilis in its different forms, to various scaly and other forms of skin disease, and brought forward cases in illustration; cases which, however, he admitted to be incomplete as proofs on account of the iodine not having been the sole remedy administered. He urged that the conviction which a multitude of small experiences wrought in the mind of a practitioner could with difficulty be illustrated by solitary instances of so complicated a character as many of the diseases were which might be classed under the second head.

Under the third head the author explained his views with regard to the action of iodide of potassium in the cure of the various affections resulting from metallic poisoning. Cases of lead-poisoning were brought forward and a well-marked case of mercurial poisoning was also quoted, in illustration of the value of the iodide in such cases. Dr. Sieveking adverted to the importance of a correct diagnosis in cases of lead-poisoning; as symptoms which otherwise might induce a most unfavourable prognosis, would, when regarded as the result of saturnine intoxication, justify a much more favourable view. The difficulties attending the detection of lead in the urine, where it was manifestly being eliminated from the system, were adverted to, and it was suggested that probably, at times, some, if not all, of the lead was evacuated by the intestinal canal.

Dr. Sieveking concluded by observing that he had by no means alluded to all the various forms of disease which called for the exhibition of the iodide of potassium, but that he had merely desired to submit for the consideration of the Society some of the opinions which practical experiences had induced him to form relative to the drug, and to exact from the stores of observation of the members, further illustrations in regard to its uses and effects.

NORTH LONDON MEDICAL SOCIETY.

Dr. Jenner, President.

Mr. Lord read a paper on the

INSIDIOUS APPROACH OF DISEASE;

and noticed forcibly the little power which could be exercised over chronic disease as a motive for aiming to arrest early indications of illness, and to remove the remnants of acute disease, which so frequently pave the way to irreparable mischief. He argued that, although the application of remedies to the cure of disease was the obvious duty of the medical practitioner, it was his more sacred duty to aim at preventing all disease; and urged a far wider range of preventive medicine than that embraced in drainage, ventilation, and water supply, arguing that longevity is man's natural right on earth, and that nature's law in this respect is "health till death through ripe old age." Mr. Lord reprobated the wide doctrine of hereditary disease, observing that in few cases, except in direct contamination in utero, as through small-pox, lues, &c., &c., can more than the tendency to disease be established. This tendency should be eradicated or controlled by judicious care and management. In respect to acquired disease, particularly subacute, the author showed that every state of mere anæmia demanded vigilant care and discriminating succour, since what are called trifles often mark the advent of malignant disease and premature degeneration. Under the idea of "mere debility," no efforts are made to arrest incipient change of structure or impurity of blood. The humoral pathologists were to be highly regarded, since more disease and needless death occurs through vitiated blood than from any other agency; that this dyscrasia should be prevented from a crisis in gout or rheumatism, in anthax or pyæmia; that even phthisis pulmonalis, insidiously approaching through diminished vital action in the air-cells, may be foiled, as is contended for by Dr. E. Smith, before tubercular deposit has taken place; that through simple chronic dyspepsia and imperfect sanguification, or fæcal fermentation, factories of blood-poison from within, equally with others from without, the body, engender and circulate their deadly products over the brain and nervous centres, giving rise to cancer, blastema, and other such-like malignities. Diabetes, "Bright's disease," and that of the supra-renal capsules, were given as instances of the treacherous advance and hopeless character of confirmed disease. Of these, as of fatty degeneration and atrophy, it was of small value to be only able to say, with Mr. Paget, "the explanation probably lies far among the mysteries of the chemical physiology of nutrition." Mr. Lord noticed the approach of morbid conditions of the nervous system, quite distinct from recognised organic lesion, which creep on most insidiously, such as the "petit mal" of epileptiform character, chorea, and insanity. The opinion of Dr. Forbes Winslow, who referred insanity "in all cases to some lesion or disturbance of the medullary matter," was contrasted with that of Dr. Burnett, who regarded the blood as the seat of the disorder. Finally, that in respect of mental diseases, as in most others more essentially physical, a timely caution could avert, or quite prevent, if, as was said by Dr. Currie in 1797, "we could rely as much on the wisdom as on the power of our species."

WESTERN MEDICAL AND SURGICAL SOCIETY.

DR. CUMMING, V.P.

DR. EDWARD SMITH read a paper

ON THE CURABLE STAGE OF PHTHISIS.

The author having discussed the meaning which should be attached to the term "curable," defined it for this purpose, "as the arrest of the disease, with the return of all vital functions in every part of the lungs." He then divided the diseases into three stages—viz., the pre-tubercular; the tubercular, without destruction of tissue; and the tubercular, with destruction of tissue whether the extent of ordinary softening, or of the formation of a cavity. He first considered the question on the received opinion, that tubercle is the essence and the first stage of the disease, and showed that as tubercle in anything is a substance foreign (originally or otherwise) to the cells in which it is found, in order to effect a cure, it must be removed, and that could be effected only by absorption or expectoration. In reference to absorption, he considered that theoretically it might occur, since normal epithelium is probably absorbed after disintegration, and also various deposits into the air-cells, as from inflammatory or congestive action. To determine this practically was most difficult, since it would be necessary that further depositions should also be prevented, and to find a case exhibiting true arrest of the disease, with absorption of the deposited matter, was of extreme rarity. The author had seen many cases in which the vital capacity had not only not continued to decrease, but had considerably increased. But this might only show that tubercle had been removed, and not necessarily that it had been removed by absorption. As a rule, whether the power of absorption exists or not, the deposit usually continues to increase; and hence, if it do exist, its influence must be counteracted by the continuance of new depositions. On the whole, the author believed that absorption of tubercle in the lung may occur, but is not to be expected. In reference to the expectoration of tubercle, he could not conceive of the existence of a cavity without the expectoration of tubercular matter at some period, since the existence of a cavity implied the reopening of a communication with the bronchus, and the removal of the contained matters. At this period the tubercle would be degenerated and disintegrated, and hence be more readily recognisable; but since the expectoration of it would occur *commonly*, with undoubted signs of the presence of phthisis, its determination would be of great value in only a very small section of cases. The elimination of tubercle in a mass was referred to, and certain masses exhibited which would commonly be called tubercle, but which had been expectorated by a patient having rather the evidences of chronic bronchitis. In order to their expectoration from the air-cells, it was deemed necessary that there should have been an advanced stage of destruction, at least over a small area, since the masses were too large to have passed through the minute termination of a bronchus, as it enters the air-cells. The persistence and progress of the disease, in defiance of these two modes of removal of tubercle, were stated to be due to continuance of deposition, and that at a rate, and in a field more extensive than the elimination. The subject of the *arrest* of phthisis was not discussed, but it was fully admitted that true arrest does often occur, and in summing up the whole question, he was of opinion, that if tubercle is to be considered as the essence, and the first stage of the disease, a cure may occur, but is not to be expected, and cannot be brought about by any procedure which is admitted to have a fixed and known relation to the cure.

The author then discussed the nature of the first, or pre-tubercular stage, and showed that in it there was nothing either theoretically or practically which should render it less curable than other diseases, provided the patient could be placed under circumstances as favourable as are required for the cure of other diseases. The evidences of it were those of lessened action of the air vesicles, without the presence of any abnormal material—viz., short and feeble inspiratory action, feeble vesicular murmur, with slight increase of bronchial sounds; lessened mobility of chest; dulness on clavicle in the degree commonly found in chronic bronchitis, and lessened vital capacity and tidal air; and he stated these evidences to exist, only varied in degree, in all cases of predisposition to phthisis. The only change in these signs affected by the deposition of tubercle is to intensify them, *and to* add prolonged expiration, wavy *respiration*, or other signs indicative of local obstruction to the entrance and exit of the air; and hence he regarded it as a question of degree, and of future rapidity of progress. In reference to the diminution of the vital capacity at the earliest moment of deposition of tubercle, he showed that it was inconsistently great in relation to the quantity of tubercle, and must, in great part, be due to some other cause, that other cause being the lessened action of the air-cells. He did not discuss the whereabouts of the power by which inspiration is effected, but mentioned the conditions on which that act must depend, and as of these he believed that there was no defect in the expansibility of the thoracic walls or of the expiratory act, the defect must be in the permeability or tonicity of some part of the respiratory apparatus, or in the call for air, or in the inspiratory muscular power. He deprecated the continuance of the dispute as to the existence or non-existence of tubercle in doubtful cases, on the ground that if there be a pre-tubercular stage, the disease is still phthisis, and in practice ought to be so regarded. In the immense majority of cases there is no practical difficulty in distinguishing the pre-tubercular from the tubercular stage; for, on the one hand, the lessened action is not so advanced, and on the other, the quantity of tubercular matter gives unmistakable evidence of the presence of a solid material. The period of difficulty is when the lessened action is considerable, and the amount of tubercle very small, a period seldom of long duration.

In reply to various questions, the author admitted that the sole difficulty in affirming the existence of the pre-tubercular stage, was in proving a necessary connexion between that state of system which is universally admitted as predisposing to tubercle, and the subsequent occurrence of the tubercle; for if this were done, it would be easy to prove or disprove the correctness of the author's description of that stage, and to admit that this early condition must be regarded as an integral part of the disease. The author insisted upon this connexion on the following grounds:—1st. That tubercle, as a morbid material, must have a cause and a period in which the changes which produce it exert their influence. 2nd. That it has always been admitted that there is a state of system, and that both original and acquired, in which the occurrence of phthisis may be prognosticated; and since this amount of connexion is so constant as to be admitted, it would be a fair deduction that the former was a cause of the latter. The duration of this condition of system may be long or short, often indeed from birth, and commonly for years; but the disease itself after the deposition of tubercle is of the most chronic kind, and hence the long duration of the first or predisposing stage may be at least as long, and even much longer, without lessening the probability of a connexion between the two. It would not follow that all persons having the predisposing state of system should subsequently have tubercle in the lung, since they might die before the period had elapsed during which tubercle is commonly deposited, or the predisposition might be lessened by favourable circumstances. Then 3rd. The connexion between these stages was proved by the identity of the evidence before and after the deposition of tubercle, except such as would be due to the deposit of a solid material and to secondary changes. The essence of these is the lessened vesicular action of the lung, as evidenced by the spirometer, the form of the chest, the chest movements, and the respiratory sounds. At the earliest moment of deposition of tubercle these signs are disproportionately great in reference to the quantity of tubercle, showing that they are not altogether due to the tubercle, and they exist before the deposition of tubercle.

Mr. Hatfield read a case of

POISONING BY THE ROOT OF ACONITE.

He was called at eleven A.M. on Nov. 9th, 1856, to a man, sixty-four years of age, whom he found stretched on the bed, with his face downwards, groaning, and complaining of agonizing, burning pain at the epigastrium; parched mouth, intense thirst, constant retching; the pulse was imperceptible, the skin cold, though perspiring, and the countenance expressive of extreme agony; jactitation incessant, scarcely remaining half a minute in the same position. His wife stated that he was seized with "deadly sickness," faintness, and pain in the stomach, about half-past eight that morning; that she, by his request, had procured from a neighbouring druggist an emetic (afterwards found to consist of ipecacuanha), at half-past nine, which had produced vomiting, but no relief to the symptoms. Upon further inquiry, the man stated that he had taken some monkshood root during the absence of his wife, about eight o'clock in the morning, intimating at the same time that he took it from his tobacco-box. It could not be ascertained from him, however, whether he took it intentionally or by mistake. None was found there, upon searching for it. An emetic of sulphate of zinc was administered, which produced copious vomiting of a fluid resembling gravy soup, with a large quantity of tenacious mucus, but no portions of the poisonous root. Brandy-and-water and strong coffee were also given, but he died at half-past eleven without convulsion, and retaining his consciousness to the last.

Autopsy, thirty-two hours after death.—Body short and muscular; rigor mortis strongly marked; the gastrocnemii muscles were contracted into a ball, as occurs in cramp, but no clenching of the hands or distortion of the features were present. The pupils were also of a natural size. Upon incising the scalp, fluid blood exuded in large quantity from the occipital region. The calvarium was thin, and a considerable quantity of fluid blood and serous fluid escaped previous to the removal of the brain. The arachnoid membrane at the superior surface was very dense and opaque, and enclosed a large quantity of serum; the pia mater was gorged with fluid blood. Upon slicing the cerebrum, even in the gentlest manner, bloody serum oozed out in large quantities from the sulci between the convolutions, and numerous bloody points appeared on the cut surface. The ventricles did not contain much fluid, and the cerebral substance was healthy throughout. The lungs and pleura were perfectly healthy. Heart flaccid, but healthy in structure; the right side containing blood very slightly coagulated, the left side empty. The liver was healthy, and gall-bladder full. The stomach contained a considerable quantity of food half digested, together with four large masses of beef, nearly the size of a man's thumb, which appeared wholly undigested as well as unmasticated. There were also four transverse slices of monkshood root in an unaltered state. The mucous membrane exhibited a slight reddish-brown patch of colour, of the size of half-a-crown, at the cardiac extremity, but was perfectly sound in texture and healthy in appearance elsewhere. The other abdominal organs were in a normal state. In consequence of the late period of the case at which Mr. Hatfield was called in (only half an hour before death), he had not an opportunity of observing the earlier symptoms; but so far as they were observed, the features of the case appeared to resemble closely those recorded by other authors in cases of aconite poisoning.

Mr. Barnes communicated a case of

FIBROUS TUMOUR OF THE OS UTERI.

It occurred in a lady, aged thirty-five years, who, until the last two years, had enjoyed good health. Within that time, irregularities of menstruation had occurred, in respect of time, quantity, and duration; often taking place suddenly, and in large quantity, accompanied with pain. An examination of some difficulty revealed the cause of these symptoms in a tumour, completely filling the vagina, and springing by a pedicle from the lip of the os uteri. Dr. Locock having confirmed this by examination, proceeded at once to remove it, which was accomplished by drawing the tumour well down with a pair of hooked forceps, and snipping the pedicle through with curved scissors, by a series of small cuts. A good deal of hæmorrhage followed, but was stopped by plugging. The pedicle was of a cartilaginous character. Mr. Barnes stated that six of these cases had occurred to him during his residence in this neighbourhood, two of which were removed by ligature, four by excision; and his experience inclined him to an opinion favourable to this latter mode of removal.

Mr. Dickinson mentioned a case of

COMPOUND DISLOCATION OF THE THUMB,

which had been put up in the usual way, when Mr. Dickinson first saw the patient. He was then, seven days after the accident, suffering with trismus, of which he speedily died. Mr. Dickinson took occasion to remark, that the opinion of Abernethy, given many years ago, appeared to him to be sound—viz., that amputation should at once be performed in all cases of compound dislocation of the thumb.

EPIDEMIOLOGICAL SOCIETY.

Dr. Babington, President.

Professor Murphy read the concluding portion of a paper on

PUERPERAL FEVER.

The author alluded to a former paper on this subject, in which he objected to the propriety of considering this disease as an inflammation of one or other of the tissues. He then pointed out, that neither in the mode of the attack, in the symptoms, in the post-mortem appearance, nor in the treatment, did puerperal fever agree accurately with peritonitis. A closer resemblance to phlebitis was admitted, because both were blood diseases, but he denied that they were identical. He proceeded to explain his views of the nature of the disease, that it was the result of a poison, and obeyed strictly all the laws of morbid poisons. *Its action was definite and specific.* The seat of that action was the serous surfaces, especially the peritoneum and uterine veins, chiefly because of the rapidity of their absorption. He denied that the action itself should be considered a *specific* inflammation, although he admitted that in certain cases inflammation may be excited. The term inflammation was used too extensively, being made to embrace actions perfectly opposed to each other. The design of inflammatory action is to preserve or repair organized structure, yet the term is given to actions that destroy it. Thus, cancerous inflammation, tubercular inflammation, are expressions sometimes used in such a manner as to mean that cancer and tubercle were only forms of inflammation. So, also, in the infantile lung, post-mortem appearances were described as lobar, lobular, vesicular pneumonia, which were caused by collapse of the lung. The tendency of a poison is to destroy organization; it is incorrect, therefore, to consider its action as a *specific* form of inflammation, which, whenever it takes place, is only for the purpose of limiting the action of the poison; and in this sense, just as the deposition of tubercle on the peritoneum is accompanied by peritonitis, so the puerperal poison may excite peritonitis; but the more powerful the poison, the less peritonitis; and the weaker its influence, the more distinctly are the evidences of inflammation observed. The action of the puerperal poison is on the blood; the quantity of fibrine is increased; the quality deteriorated; a profuse exudation of morbid fibrine takes place, having none of the properties of healthy fibrine, it is not organizable; dissolves into a creamy substance, which melts into a fluid like pus, and, mixing with serum, forms the abundant "lactescent fluid" of *authors*. Exudations are not found in the veins, because they are not adhesive, but dissolved fibrine, like pus, is found abundantly. The puerperal poison seems a contrast to the typhus poison, which destroys fibrine, yet the typhus poison, absorbed by a parturient patient, will cause puerperal, not typhus, fever. It is the same with erysipelas. *The action of the poison is modified by the dose, as well as by the temperament and constitution of the patient.* Puerperal fever does not attack all indifferently, but selects its victims. The most important feature of this law is the manner in which the characters of the disease are modified by the quantity of the poison absorbed. When it is in excess, the patient may die without any other symptoms than a fluttering pulse and cold, livid surface. On the other hand, the dose may be so small, that true inflammation is set up to arrest it, and thus peritonitis, phlebitis, or arthritis take place. Hence the contradictions amongst authors, those who meet the latter class of cases calling the disease peritonitis, &c., while those who witness the former stand aghast at symptoms which no theory of inflammation can explain. The co-existence of hooping-cough and measles, of syphilis with erysipelas, proves that two morbid poisons may each set up their specific actions in the same person at the same time. Erysipelas and puerperal fever have occurred in the same patient; but the author generally found erysipelas to precede or follow puerperal fever rather than accompany it. Erysipelas excited puerperal fever; but when the latter was at its height, the former disappeared. The author objected to the opinion that erysipelas and puerperal fever were identical, and did not consider those cases described by Gooch, in which the peritoneum was pale and colourless, as puerperal fever at all. They might be instances of erysipelas, if this poison ever attacks serous membranes. The author considered the poison as a contagion just like the cadaveric poison, which seems so similar to it; and briefly enumerated the symptoms of the disease to explain the principle which should guide us in the treatment. According to its strength, the constitution makes an effort to get rid of the poison, whether by vomiting or by purging, by the skin, or by the kidneys. The observation of these efforts led Donat to use emetics; Boër kermes mineral; Denman tartar emetic; and Armstrong salts and senna. If the effort fail, the poisoned blood accumulates at the centres of the circulation, which are relieved by a prompt and bold depletion; for such a purpose, thirty, forty, even fifty, ounces of blood have been taken with decided benefit; but depletion should instantly follow the rigor, because if time is lost, the very same treatment may only hasten dissolution. Camphor and turpentine have been recommended in the treatment of this fever. These remedies are not only stimulant but anæsthetic, and are useful not alone in supporting the constitution against the attack, but by diminishing pain, they lessen nervous exhaustion. Reasoning on these facts, the author tried chloric ether with great advantage, and recommended it strongly to the consideration of the profession. General rules cannot be laid down for treatment. If the dose of the poison be a maximum, nothing will save the patient: if in such quantity that the constitution can make some effort to get rid of it, much of our success will depend upon a close observation of the manner in which the effort is made. Prompt depletion has saved many a patient. The judicious use of emetics, purgatives, diaphoretics, and even diuretics, has averted the attack by aiding a natural effort. If the dose of the poison be a minimum, then peritonitis, or phlebitis, become prominent, and must be treated as such. Thus what are called the inflammatory and ataxic forms of this disease, merely signify the degrees in the dose of this poison. The author alluded to the importance of prophylactic agents, to *ventilation* and the improvements lately introduced, to chlorine as a means of destroying the poison, and to anæsthetic agents as a means of blunting the sensibilities of the nervous system and diminishing the activity of absorption. In this sense he considers chloroform extremely valuable; and so far from fearing its influence in causing puerperal fever, he looked upon it as a preventative.

A Mirror
OF THE PRACTICE OF
MEDICINE AND SURGERY
IN THE
HOSPITALS OF LONDON.

Nulla est alia pro certo noscendi via, nisi quam plurimas et morborum, et dissectionum historias, tam aliorum proprias, collectas habere et inter se comparare.—MORGAGNI. *De Sed. et Caus. Morb.* lib. 14. Proœmium.

ROYAL FREE HOSPITAL.

Cases of Chronic Rheumatism and Sciatica successfully treated by the external Use of Sulphur and Flannel Bandaging.

(Under the care of Dr. O'CONNOR.)

NEARLY three years ago, during a discussion of the Medical Society of London, on a paper read by Mr. Hancock "On the Treatment of Sciatica," Dr. O'Connor stated that, amongst other remedies, he had been for years in the habit of having recourse, with success, to the external application of sulphur, with bandages of new flannel, in the treatment of that painful affection; and subsequently, in a discussion on Dr. Garrod's paper "On the Treatment of Rheumatism," read at the Royal Medico-Chirurgical Society on Feb. 13th, 1855, and reported in THE LANCET, he mentioned the fact of his successful treatment of chronic rheumatism by the same remedies. In the "Mirror," Nov. 1st, 1856, we recorded some cases of acute rheumatism successfully treated in this hospital with bicarbonate of potash, by Dr. O'Connor. In one of those cases, which had assumed somewhat of a chronic form, the patient having been attacked with rheumatism three months before his admission to the hospital, one of the knees continued painful and stiff, the joint not admitting of motion. The external application of sulphur, with the flannel bandage, was had recourse to, with almost immediate relief, and the man was discharged cured in a few days.

The use of flannel bandaging in chronic rheumatism, as well as the external application of sulphur to the affected part, are not new remedies; but we believe Dr. O'Connor is the first who has had recourse to their conjoint use in chronic rheumatic conditions, as well as in sciatica; and it is because we have observed their good results in these affections that we give a brief notice of a few cases, illustrative of many others, which have been treated by him at the Royal Free Hospital.

The first is that of a woman aged forty-five, married, but without any family. For some years previous to her marriage, eight years ago, she had been a cook in a gentleman's family. She had always good health, and did not complain of any uneasiness until the latter end of the year 1854, when she was attacked with a painful affection of the left shoulder-joint, supposed at the time to be rheumatic, but for which she had no regular attendance. After a time, the joint became somewhat stiff, swollen, and painful, so that she could not move it in any direction. In this state, she was admitted an out-patient of one of the metropolitan hospitals, where, on examination, she was told the condition of the joint depended on some amount of dislocation. After some time, however, she was transferred to one of the physicians, under whose care she continued for some time; but not deriving any benefit from the treatment had recourse to, she presented herself at the Royal Free Hospital in August, 1855, and was admitted under the care of Dr. O'Connor. At this time, the patient complained of severe pain about the head of the humerus, but more particularly before and behind the acromion process of the scapula. The joint was somewhat swollen and immovable; the arm lay close to the body, with the forearm flexed across the chest. She had scarcely any power over the muscles of the forearm; they appeared as if paralysed, and the points of the fingers and thumb could not be brought together. Dr. O'Connor viewing the case as one of chronic rheumatic arthritis, but accompanied with more pain than usual in those cases, after a brisk purgative, ordered leeches to be applied to the painful part, and calomel and opium were given internally, and persevered in until the mouth became affected, when considerable relief was afforded, although pain and immobility of the joint still existed. The alternate application of leeches and blisters were next tried, with good effect, and the iodide of potassium, in five-grain doses, with liquor potassæ and decoction of sarsaparilla three times a day. This plan of treatment was continued for some time; still the motion of the joint was but trifling, and the hand could not be raised even so high as the mouth, but the pain was considerably abated; it was most severe at night.

In this state, ten weeks after admission, Dr. O'Connor determined to try the effect of the external application of sulphur and flannel bandaging to the joint. The whole of the limb, including the shoulder-joint, to the tips of the fingers, was covered with sulphur, over which was placed a bandage of new flannel, and sheets of wadding were next wrapped round the limb. All the remedies were now discontinued. In less than twenty-four hours the pain became sensibly less, and in six days it ceased altogether. There was increased motion of the joint, and great power acquired over the muscles of the forearm and hand. The application was now continued for eight days longer, and the patient had nearly acquired the power of moving the arm in any direction. Dr. O'Connor informs us that this patient was subsequently admitted under his care for an attack of bronchitis, when he had an opportunity of examining the shoulder-joint, in which the motion is nearly perfect. He looks on this case as one that would ultimately lead to that condition of the shoulder, the consequence of chronic rheumatism, so well described by Professor R. Smith, of Dublin, and subsequently noticed in London by Mr. Canton, Mr. Wm. Adams, and Mr. Holmes Coote, if remedial treatment had not been had recourse to in time.

E. P——, a man, aged forty-two years, was admitted, under Dr. O'Connor's care, Sept. 26th, 1855, complaining of a painful and swollen state of the knee-joints. He had been for some years a policeman, and had suffered in early life from a severe attack of acute rheumatism, from which he recovered after an illness which lasted for nearly three months. He frequently suffered from more or less pain in the knee-joints, especially at night; he also complained of pain in the scalp and along both shins. There was reason to suppose the existence of syphilitic taint, although the patient declared he never had any venereal affection. The alterative mixture of the hospital, consisting of iodide of potassium, liquor potassæ, and decoction of sarsaparilla, was ordered three times a day, and Dover's powder at night. These were continued without benefit for ten or twelve days, at the expiration of which time Dr. O'Connor determined to have recourse to the external application of sulphur, which was applied as in the preceding case. On the 17th of October, seven days after the application of the sulphur and bandaging, the pain and swelling had altogether disappeared from the joints as well as from the scalp, and the patient was discharged cured on the 28th of October.

The next case we have to record is one of sciatica, in a servant girl aged nineteen years, of a florid complexion, who constantly suffered from constipation of the bowels, and had never menstruated regularly. She was admitted on the 28th of November, 1855. In this case, nearly every known remedy was had recourse to, including the internal use of croton oil and the application of a hot iron button rapidly passed over the course of the sciatic nerve, but without any permanent benefit. The whole of the limb was now covered with sulphur, and the flannel bandage applied with as much tightness as was proper. Sheets of wadding were wrapped round as in the preceding cases. The bowels were kept open by ordinary aperients, and in twelve days from the application of the sulphur there was perfect freedom from pain, when the patient was discharged cured.

Although in the cases we have recorded, as well as in very many others that have been under the care of the same physician, very good results have followed this plan of treatment, still there are many, as he informs us, in which it has not been beneficial, but those cases are of too long standing, and beyond the reach of any known remedy. In order that good results may follow the application of the sulphur, it is necessary that it should not be disturbed for some days, otherwise its absorption, upon which depends its curative effect, will be prevented.

Extraordinary Deformity of the Chest, with Lateral Curvature of the Spine; Diameter of the Chest from the Pit of the Stomach to the Spinal Integument being only five Inches and a half.

(Under the care of Dr. Glover.)

The subject of the case, J. C——, was some time ago an out-patient of the Royal Free Hospital. He is aged eighteen. The deformity was first observed to come on about four or five years ago. He could not speak until he was five years old. He has now long hair, and a well-furnished moustache; he speaks with great hesitation, and is imbecile, but not altogether deprived of intellect. The deformity, according to his mother's account, went on gradually until it reached its present state. It consists, as far as can be made out, in an absence or very extraordinary depression inwards of the ensiform cartilage, so that at that part of the sternum there is a pit. The diameter of the chest below the mammæ is only twenty-two inches, and the expansion of the chest less than an inch at this part, on full inspiration. From the bottom of the pit to the outside of the last dorsal spine, the diameter transversely, measured by the calipers, is only five inches and a half. The sounds of the heart are normal; the respirations 13, pulse 80; tongue clean, and appetite pretty good; he is 5 feet 9; there is no pain on pressure. The body is not ill-formed otherwise, and, in short, one can detect nothing abnormal except the strange depression, and some lateral curvature of the spine. The existence of certain habits may be suspected, but his parent denies this.

In a peculiarly deformed case, such as this is, there must be displacement to some extent of the viscera, especially the stomach and colon, and most likely the liver, although these points are not dwelt upon in the details of the case. The question of interest which arises is the theory which pathology might offer to account for this deformity, but the instances are so rare that for the present it remains unexplained, although it may be influenced by the lateral curvature of the spine. Had the man been a shoemaker, the depression might have commenced while working at his trade.

LONDON HOSPITAL.

Congenital Deficiency of the Rectum in a Child Four Days Old, with an Opening in the Vagina Communicating with the Anus; Amussat's Operation; Death the following Day.

(Under the care of Mr. Curling.)

The following case was one of those examples of congenital deficiency which are now and then met with; but differing from the general class in the gut being impervious as far as the sigmoid flexure of the colon, although the rectum itself was represented by an impervious cord, which at its lower part formed a fistulous communication with the vagina. With this state of things, the result must be fatal in a short time unless something surgically can be done to afford relief. Mr. Curling, therefore, performed Amussat's operation, —a procedure of an extremely difficult character in an infant, as contrasted with an adult. The difficulties to be met with in its performance on a child are most graphically described by Amussat himself in his own work. This case formed the subject of a clinical lecture by Mr. Curling, who, in the course of his remarks, divided deficiencies of the rectum into two great classes: the first, where the gut is impervious, but opens in some preternatural situation,—as the bladder, urethra, or vagina; the second, where the gut is really imperforate, either obliterated to a greater or less extent, or obstructed by a membranous septum at a variable height above the naturally-formed anus; or else terminates in a cul de sac without any external aperture. The opening into the vagina is the most common of the first class, and is not dangerous, he observed, because there is an outlet for the fæces; but the malformation is of a disgusting character.

The following case comes under both classes; for not only did the impervious rectum open into the vagina, but it terminated in a cul de sac at the brim of the pelvis.

Mary S——, aged four days, was brought to the hospital May 11th, 1856. She had been continually sick, more or less, since birth, and had passed nothing per anum. The abdomen was distended. On examination, a membrane was found just above the anus. This was divided with a bistoury, but the finger seemed to pass up into the pelvis external to the peritoneum, and not into the gut; it was afterwards found that this cavity communicated above the vagina. Nothing passed from the bowels.

The next day Mr. Curling performed Amussat's operation of opening the colon in the left loin. Great difficulty was experienced in exposing the descending colon. After dividing the muscles and fascia, the kidney was exposed; this was of a blackish colour, and somewhat like distended bowel. A little more external to the latter the colon was found; but as it was not much distended, and not distinctly recognised at the time, further search was made. The peritoneum was inadvertently opened, and some small intestine protruded. Soon after, a longitudinal band was seen in the bowel, and of course dispelled all doubt as to its being the colon. Two sutures were passed into the bowel in its long axis, at a little distance from each other, and an incision was made between them. Nothing escaped immediately. The sutures were attached to the edges of the skin, and a small sponge covered the whole. At ten P.M. the child had taken the breast freely, and cried when moved. The abdomen was much less tense, and a great quantity of meconium had passed.

May 13th.—She died quietly at ten A.M. today, having survived the operation eighteen hours.

Autopsy.—A small quantity of turbid serum was found in the peritoneal cavity. The cæcum and ascending and transverse colons were greatly distended; the descending colon was contracted, and was stitched to the operation wound, at about its middle. The sigmoid flexure was distended into an almost globular sac, about the size of a walnut, and beyond this was nothing but a small impervious cord, where the rectum should have been. On passing a probe up the anus, it passed through a wound into the vagina, and thence, behind the uterus, up to the peritoneum. The other pelvic viscera were normal.

ST. MARY'S HOSPITAL.

Fracture of the Pelvis, with Separation of the Sacro-iliac Synchondrosis; Rupture of the Bladder; Laceration of Muscles and Nerves. Death in four Days; Autopsy.

(Under the care of Mr. Ure.)

Fractures of the pelvis very seldom occur without the application of tremendous violence, such as the falling from a considerable height, being run over by some heavy vehicle, or jammed between two opposing bodies, such as the buffers of a railway carriage. They are injuries at all times of the gravest character, not less so than fractures of the skull, and demand the anxious consideration of the surgeon. We may truly say that this form of injury is not common, but now and then an instance presents itself to our notice in the London hospitals. Within the last four months, two very remarkable examples were to be seen; one at St. Mary's Hospital; the other at the Westminster, under Mr. Holthouse's care, both of which we record to-day. In the subjoined case, which we have taken from the hospital case-book, there was not only very extensive fracture, but separation of the bones at the sacro-iliac synchondrosis. The fracture extended through the acetabulum, but without displacement; hence the absence of symptoms of fracture of the cervix femoris, which are sometimes observable when the head of the bone has been jammed into the pelvis. The other injuries besides those to the pelvis were of the most serious character, such as a rupture of the bladder, and, as might be expected, a fatal result ensued. The presence of blood in the urine on admission was a grave symptom, taken with others; and its absence from the rectum showed that that viscus had escaped.

In some clinical remarks made by Mr. Ure on this case, he observed, "that the indications here, were the evacuation of the contents of the injured bladder at frequent intervals; the exhibition of opium in suitable doses, to assuage pain; the use of revulsives, to abate, if possible, peritoneal inflammation; and the due employment of cordials to sustain the flagging powers of life. The appearances revealed after death, the wide-spread peritonitis, the rent of the bladder with its sloughy edges, and the extensive injury of the pelvic bones, all went to show that none other but a fatal result could have ensued. It is remarkable, indeed, that the woman should have lived upwards of four days after the serious hurt she had sustained.

Harriet C——, aged twenty-seven, admitted Oct. 17th, 1856. She was a spare, delicate-looking woman, and had arrived from the country the day previous in quest of a situation as domestic servant. Her brother-in-law was driving herself and sister through the town. All of a sudden the light spring-cart in which they were came into violent collision with a wagon, and they were precipitated into the road; the man fell some seven feet in front of the vehicle, the two women directly underneath it. The subject of the present case appeared to have sustained the weight of the cart transversely across the pelvic region. Her two companions were but slightly hurt. When carried into the hospital, within a quarter of an hour of the occurrence of the accident, she was in a state of partial collapse; the pupils were extremely contracted, each aperture not being larger than the point of a pin; the pulse was small and running; the skin cold and clammy. She complained of intense pain across the iliac, and particularly the hypogastric regions. The hypogastrium was slightly bruised and exquisitely tender, so that she dreaded the slightest pressure, more especially just below the umbilicus. She was unable to stand, and said that the bones forming the pelvis seemed loose, and that "she could feel them slip about." On grasping the spines of the ilium on each side, an unnatural mobility was perceptible, but no crepitus could be detected. Firm pressure on the ilium gave great pain, but chiefly on the pubic portion of the right side. The patient had not voided urine since the morning; the bladder was consequently full at the time of the accident. On being asked to pass urine, she found herself unable to do so. A catheter was accordingly introduced, and about six ounces of bloody urine were drawn off. She was without delay placed in bed, and presently began to shriek from the urgency of pain. She had forty drops of laudanum; poppy-head fomentations were applied to the abdomen; the opiate was repeated after the lapse of an hour, after which she seemed soothed, and remained comparatively quiet until about six o'clock the following morning, when she complained of very acute pain in the hypogastrium, which caused her to utter piercing cries. This region was extremely sensitive to pressure; the pulse was 94, soft. Forty minims of sedative solution of opium were administered, and the poppy head fomentations were replaced by warm turpentine epithems.—Ten o'clock A.M.: She still complained of great pain, which seemed to have spread over the whole abdomen; the tongue was dry and furred; the pulse 106, soft and small; the skin warm, but not very dry; thirst urgent. It was directed that the urine should be drawn off at frequent intervals; the catheter had been already employed thrice, and small quantities of pale, natural-looking urine, untinged with blood, withdrawn each time. There was no action of the bowels. Great tenderness was experienced in the course of the descending colon. The resident medical officer prescribed a turpentine injection, and a grain of opium with two of calomel every other hour.—Two o'clock P.M.: The patient was still suffering excessive pain, referred mostly to the hypogastrium; there was also much diffused tenderness of the abdomen. The countenance was expressive of agony; the pulse 125, soft and weak. It was directed that a grain of opium should be administered every hour until the pain was mitigated, and a blister applied to the abdomen.

Oct. 18th.—Ten P.M.: The hypogastric pain was much less acute than before; the pulse low and running; the tongue very dry, brown, and furred; the pupils were contracted; the face was slightly flushed. The patient was distinctly under the influence of the narcotic. The opium was discontinued, and she was ordered small quantities of brandy in hot water at frequent intervals

19th.—Ten A.M.: The pain had returned; the pulse was rapid and small; there was a tendency to vomit, and during the night she had vomited some dark-green liquid. To have two grains of opium occasionally to allay the pain.—Ten P.M.: She was very low and prostrate; the nervous sensibility was dulled; the pupils were dilated; the pulse was 136, very feeble. The urine, which was drawn off frequently, seemed natural in respect of colour and general characters. The bowels remained unmoved, although three turpentine injections had been successively administered. She was ordered an injection of barley-water with assafœtida.

20th.—Two P.M.: There was no amendment; indeed, the patient was very low, and distressed by nausea and hiccup. She was ordered brandy in large quantities; eggs beat up in milk; and small doses of cajeput oil to allay, if possible, the hiccup.

Early next morning she began to sink, fell into an unconscious state, and died at noon, having survived the accident about ninety-seven hours.

Cadaveric inspection twenty-six hours after death.—The body was thin, emaciated, sallow; the abdomen was slightly tumid and discoloured as if by a bruise below. On laying open the abdomen by a vertical incision, the omentum was found to be thickly infiltrated and covered with patches of yellow, soft, recent lymph, forming adhesions with the abdominal walls. The parietal peritoneum was, in like manner, studded with patches of fresh lymph. The whole mass of intestines was glued together in a compact and coherent manner by the same substance, which was interposed between the coils of intestine, and effused into the layers of the mesentery. The cavity of the abdomen contained from eight to ten ounces of flaky, fibrinous serum, having an urinous admixture and odour. Mr. Hart, the resident medical officer, ascertained the presence of urea in very appreciable quantity, by the addition of nitric acid, and by boiling. The bladder showed an irregular ragged opening, the size of a shilling, on the posterior aspect of the superior fundus; in the serous investment slight rents could be discerned radiating from the opening. The torn edges were rather sloughy, showing the absence of any attempt at reparation. The viscus was empty and contracted. The liver was small; its capsule coated with recent lymph. On examining the bones of the pelvis, it was discovered that the right sacro-iliac synchondrosis was widely severed, so that two fingers might be placed in the gap; the fibres of the posterior sacro-iliac, or interosseous ligament, were partially rent; some of the fibres of the psoas magnus muscle were ruptured and lacerated; the ilio-lumbar nerve was torn across. A fracture was, moreover, detected traversing the right thyroid foramen, the horizontal ramus of the pubes above, and the anterior part of the tuberosity of the ischium inferiorly. The outer surface of the uterus was slightly ecchymosed; there was evidence of incipient cystic disease in the ovaries, especially in the left one. The lungs were tolerably healthy; there were some small remains of long-standing tubercle of the grey and yellow varieties. There was considerable hypostatic congestion. The lining membrane of the trachea and bronchi was much congested and very vascular; and there were indications of commencing bronchitis. The heart was natural; the right cavities were filled with coloured fibrinous clots; the left contracted and empty.

ST. GEORGE'S HOSPITAL.

Cancer of the Bladder and Abscess in the Peritoneal Cavity in a Man, aged seventy, who had Lithotrity performed nineteen Years ago, and his Leg amputated twenty-five Years ago, being a Sufferer from Stricture for forty Years; interesting Autopsy.

(Under the care of Mr. CÆSAR HAWKINS.)

It is sometimes exceedingly interesting to the pathologist to observe the condition of an organ which, many years before, was submitted to some important surgical proceeding to obtain relief, more particularly when that relief has been permanent. Nineteen years ago, that eminent surgeon, Sir Benjamin Brodie, performed lithotrity on the subject of the following case with perfect success, although he had for forty years stricture of the urethra; and, as the history points out, twenty-five years ago he underwent amputation of the leg, and notwithstanding so many drawbacks, he reached the good old age of seventy. A few months ago symptoms of disease of the bladder set in of unusual severity, which depended upon a feature of interest as revealed at the autopsy—namely, a cancerous growth in the bladder connected with which was a large orifice in its fundus communicating with a circumscribed abscess in the peritoneal cavity, the boundaries of which are fully described in the notes of the post-mortem examination. No stone was found in the bladder, thus showing the satisfactory nature of the operation performed so many years before; and the kidneys were comparatively healthy. The disease of the bladder, therefore, was an affair of very recent date, and consequent upon the age, possibly diathesis, and the increasing difficulties of his stricture. The form of cancer was a mixture of the medullary and epithelial, associated with a sloughy condition of the entire mucous membrane of the bladder and urethra, the description of which is minutely given.

The notes of this valuable and instructive case were kindly furnished us by Mr. Frederic T. W. Wintle, surgical registrar to the hospital.

Daniel S——, an old Chelsea pensioner, aged seventy, was admitted into the above hospital on the 5th of October last. His complexion was sallow, and of unhealthy aspect. (His right leg had been amputated just above the knee twenty-five years ago, and lithotrity performed nineteen years ago by Sir Benjamin Brodie, in St. George's Hospital.) Stricture of the urethra had existed for forty years, for which instruments had constantly been passed. In June last he began to experience more than usual difficulty in passing urine, and at the same time he noticed that he passed blood. On his admission he complained of pain in the epigastrium and loins, and had great difficulty in retaining his urine, which was continually dribbling from him, and every attempt to make a full stream was accompanied by a scalding sensation in the urethra. The urine was thick and high-coloured, highly alkaline (which it continued throughout), and contained a large quantity of thick ropy mucus. Albumen was deposited on the application of heat and nitric acid; and, under the microscope, crystals of the triple phosphates with mucous cells, and a quantity of unorganised granular matter, were seen. The specific gravity was 1·020. Surrounding the orifice of the urethra was a hard white swelling, which, he said, had existed for two months previously; there was also a good deal of inflammation in the glans penis, and the prepuce was enlarged and swollen. He was ordered two drachms of infusion of buchu, ten minims of laudanum, and fifteen minims of dilute sulphuric acid, twice a day. He continued much in the same state for some time, the pain increasing, and he passed large quantities of thick stringy mucus with coagula of blood in its meshes. On the 12th December some enlargement in the left epigastrium was noticeable, midway between the linea alba and the crest of the ilium. At this time the catheter, which hitherto since his admission had been passed daily, was discontinued, on account of the pain it caused him in the bladder; but the orifice of the urethra was still frequently dilated by means of a gum bougie. His health, too, began to give way; he had sleepless nights, with profuse perspiration. He experienced severe shooting pains about the orifice of the urethra, the urine continuing to dribble away from him. Frequent doses of laudanum were administered to allay the pain, which became very severe. On the 2nd of January there was a feeling of fulness in the bladder, and a quantity of very fetid urine was drawn off by a silver catheter, the end of which was greatly discoloured by the action of sulphuretted hydrogen. There was a soft swelling over the bladder, which had increased gradually for several days, being very tender, and scarcely receding at all when the bladder had been emptied by the catheter. The orifice of the urethra was a good deal ulcerated. The pain became more intense in the epigastrium, and it was with the greatest difficulty he voided any urine, which was loaded with blood and very fetid. He became much emaciated, and continued gradually to sink till the 7th, when he dead.

On a post-mortem examination of the body there was found, when the abdomen was opened, a large foul abscess in the peritoneal cavity, which was situated in the hypogastric region; it was about the size of a large orange, and was excluded from the general peritoneal cavity by the following adhesions: below, the fundus of the bladder, which might be considered as the floor of the abscess, and with the cavity of which it communicated; behind, the great omentum covering the small intestines, as well as one or two convolutions on each side; in front, the parietal portion of the peritoneum covering the abdominal muscles. These three parts were intimately adherent at certain parts bounding the cavity of the abscess, which contained a large quantity of foul pus and masses of sloughing tissue. The abdominal muscles corresponding to the point where they formed the cavity of the abscess were in a sloughing state, the skin covering them externally presenting distinct fluctuation. This abscess communicated with the cavity of the bladder by a large orifice, the size of a shilling, situated nearly in the centre of the fundus. The margins of the orifice were thickened and everted, and an exuberant sprouting growth, soft, and of a whitish-grey colour, encircled the margin. On laying open the bladder, the lining membrane was sloughed throughout its entire extent, and the growth before-mentioned as surrounding the orifice in the bladder was found also attached to the inner surface of the mucous membrane corresponding to the inner surface of the fundus, but in no other part. This growth, on a microscopical examination, proved to be a mixture of the soft encephaloid and epithelial cancer, well marked by its characteristic bird's-nest appearance. The prostate gland and vesiculæ seminales were healthy. The mucous lining of the urethra throughout its entire extent was in a sloughing state. There was no trace of malignant disease in the parts surrounding the orifice of the urethra. Near the neck of the bladder the sloughing had extended so deep as to involve the areolar tissue between the bladder and rectum to a slight extent. The ureters, pelves, and infundibula of the kidneys were much dilated; and with the exception of a few cysts on their surface, the renal structure was healthy. The liver and spleen, and the thoracic viscera, were healthy.

ST. THOMAS'S HOSPITAL.

Stricture of the Rectum for Eighteen Months; Complete Obstruction, with Great Distension of the Bowels; Amussat's Operation, followed by Relief; Fatal Termination nearly Six Weeks afterwards.

(Under the care of Mr. Solly.)

In the following case the patient had been the subject of stricture of the rectum for eighteen months, which was accompanied by the usual symptoms until complete obstruction set in, when relief could only be obtained by opening the loin, which was performed by Mr. Solly, the patient being in a complete state of anæsthesia. There was no evidence of cancer in the family, nor was there an autopsy to show the nature of the disease after death; but the probability is that there was carcinomatous ulceration, which, together with a prostrated condition easily affected by external circumstances, produced a fatal result on the thirty-ninth day. The relief to the patient by the operation was very great indeed. The following abstract of the case was kindly furnished us by Mr. Ord, the surgical registrar to the hospital:—

George C——, aged forty-nine, a railway clerk, was brought from Alfriston on Sept. 30th. The medical attendant states that the patient has been suffering from stricture of the rectum for the last eighteen months. It came on very gradually. At first he experienced much pain in passing his motions, and he noticed frequently an intermixture with them of pus and blood. Gradually, as the pain of evacuating the bowels increased, an actual inability to empty them to any extent was felt, great efforts being required for the expulsion of even small collections of fæcal matter. About a month ago, Mr. Sanger passed a rectum bougie, and discovered a stricture about a couple of inches above the anus. After this the instrument was introduced twice a week up to the present time. The use of injections gave him temporary relief, though the quantity of fæces which they brought away was but small. After Sept. 26th, nothing whatever was passed from the bowels. Attempts at the introduction of bougies failing, and the pain of the bowels being very great, he was brought to the hospital.

On admission, the bowels were enormously distended, the abdomen tympanitic; tongue coated, red at tip; he had a haggard expression of face, sallow, and emaciated; complained of thirst, was very feeble, and his forehead cold and clammy; pulse 120, very small. To have six ounces of gin, milk diet, and beef-tea. No history of cancer in the family.

Mr. Solly, seeing his condition, operated on the 1st of October. The patient being placed under the influence of chloroform, an incision, four or five inches long, was made above and parallel to the crest of the ilium, as far as the spine on the left side. Besides the transversalis, some fibres of the quadratus lumborum were cut through, the lining fascia divided on a director, and the descending colon then seen. Two sutures were passed through the bowel and skin, one on each side, and an incision made in the bowel. Large quantities of fluid fæcal matter escaped, to the great relief of the patient. The edges of the wound were brought together with sutures, and the opening filled with a sponge tent. The pulse fell to 100 two hours after the operation.

Oct. 2nd.—Patient had a good night, is comfortable, and free from pain; pulse 94; tongue moist; oozing from wound. Takes food well.

3rd.—Better; cheerful; slept well. Much fæcal matter voided by wound. Pulse 104; abdomen soft; tongue moist.

4th.—Doing well; appetite increasing.

5th.—Two sutures removed.

6th.—Large quantity of fæces discharged; redness of right hip. Tent still retained, being reapplied daily. The wound has not united.

7th.—Improving slowly; appetite not so good.

9th.—Fæces more solid, and less in quantity; sleeps during the day, but not at night.

10th.—Remaining sutures removed. Tent not applied to-day.

12th.—Bowels opened every day. Takes the yelk of seven eggs.

13th.—Took some meat to-day.

15th.—Doing well. To have a pint of porter. Wound gapes widely; all the slough cleared off. Tent not reapplied. He went on well for some time, till, on Nov. 8th, after receiving some bad news, he suddenly seemed to sink. His features became sunken and haggard; the pulse rose to 120, and then to 140, the tongue became brown and dry; and all pain left him. He fainted once, and after that fell into a state of approaching collapse, in which he died on Nov. 12th.

KING'S COLLEGE HOSPITAL.

Aneurism of the Femoral Artery, the size of a Hen's Egg, first noticed six Months ago; Ligature of the External Iliac Artery; Recovery.

(Under the care of Mr. Fergusson.)

Deligation of the external iliac artery has been performed so many times successfully that no surgeon now hesitates to do it in any case wherein it may be considered necessary. As our readers are aware, it was first practised by Abernethy in 1796, and since that time it has been performed probably about 150 times, with a mortality of one in three—possibly less. In regard to ligature of this great artery Mr. Fergusson observes: "since 1796, when Abernethy first secured this vessel, the operation has been very frequently performed, and with such success that the surgeon may undertake it with far greater confidence of a fortunate issue than in similar operations on other large arteries." (Practical Surgery, 3rd edition, p. 721.)

Opportunities of recently seeing this operation were afforded on two occasions, on patients affected with femoral aneurism, and followed by a cure in each. The first of these was by Mr. Hilton, at

Guy's Hospital, on the 22nd of September last, upon an otherwise healthy man, aged fifty-one, with a tumour, noticed only three months before admission, and situated pretty high up, pressing against Poupart's ligament, and overlapping the external iliac. The ligature came away on the thirty-first day, and a most excellent recovery was made. The second case occurred at King's College Hospital, in which Mr. Fergusson tied the vessel, the particulars of which we subjoin through the politeness of Mr. John Way, house-surgeon to the hospital. The patient was thirty years of age, a turner by trade. The aneurism was noticed six months before admission; but, on entering the hospital, it was partly above Poupart's ligament; his general health being perfect. Compression was tried for a couple of days, but could not be borne; Mr. Fergusson, therefore, tied the vessel. His progress was favourable; but at one period there was much swelling and redness of the left hypochondrium and scrotum, which resulted in sloughing of the latter. The ligature came away on the twenty-fifth day, and the patient was discharged cured about ten weeks after the operation. This makes the second case within twelve months in which this important operation was performed at King's College Hospital by Mr. Fergusson.

In the case which we record to-day, the whole operation lasted eight minutes, the ligature being applied an inch and a half above Poupart's ligament. In some remarks by Mr. Fergusson at the time, he observed, that there was no struggling, nor any protrusion of the bowels through the wound, as sometimes takes place. The operation was easily accomplished, as in most cases of the kind, but it formed a great contrast to the case he had a year before, resembling it in many respects; but in that case the artery was not only much diseased, but buried in a mass of affected and enlarged glands.

Robert R——, a turner, aged thirty, admitted September 11th, 1856, with femoral aneurism on the left side. About six months previous to admission, he noticed an enlargement in the left groin about the size of a hasel nut. Three months after this, the tumour had somewhat increased in size, and was then found to pulsate after any unusual exercise. At present the aneurism is of the size of a hen's egg, is very firm, even, and pulsating in every direction; it is two inches and a half in length, half an inch being above Poupart's ligament, the remainder below it; breadth about one inch and a half. Heart sounds natural. No bruit in the aneurism; the skin moves freely over it. No history of rheumatic fever. Two years ago the patient received a severe blow on the left groin. Since the age of fourteen he has been accustomed to work a turning machine with the left leg about ten hours daily.

Sept. 23rd.—The patient has remained in bed since admission. No change in the condition of the aneurismal tumour.

Oct. 7th.—Pressure by Carte's apparatus was applied to the left external iliac, but when sufficient to control pulsation could not be borne for more than a couple of minutes at a time, and, after repeated trials during the 7th and 8th, was relinquished.

11th.—Mr. Fergusson cut down on the external iliac artery by a semilunar incision, five inches in length, above Poupart's ligament, the peritoneum being drawn aside by retractors; the artery was exposed, and found perfectly healthy; it was then tied, and the wound brought together by interrupted sutures. About an hour after the operation the temperature of the limb had considerably fallen, and it remained cold until night, when it gradually began to gain warmth.

12th.—Pulse 88; skin hot and dry; no tenderness in the limb or abdomen. Towards evening there was much headache, and the pulse rose to 120. Ordered, tincture of aconite, five minims a fourth part every hour.

13th.—Pulse 104; less headache. There is considerable tenderness on pressure over a spot a little above and to the inner side of the anterior superior spinous process of the left ilium.

14th.—Pulse 88. The pain in the left hypochondrium has extended over a surface of three inches diameter. There is much thirst. Wound dressed with water-dressing; discharge scanty, but healthy.

16th.—Pulse 100. Incisions look healthy. There is some redness of skin over the left hypochondrium, and pain in the part on coughing.

19th.—There has been a good deal of redness and swelling about the left hypochondrium and scrotum; the scrotum showing some tendency to slough, was freely incised. Pulse 120; *respiration* 26. Ordered, brandy, sixteen ounces a day; also an ounce of the following mixture—carbonate of ammonia, eight grains; chloric ether and liquor of cinchona, of each forty minims; water to eight ounces, with half an ounce of lemon-juice.

21st.—Pulse 100; respiration 24. Incisions suppurating; scrotum still sloughing. Brandy reduced to eight ounces a day.

26th.—Pulse 92; respiration 22. Discharge from the wound profuse; sloughs separating from scrotum.

Nov. 6th.—Ligature removed (twenty-fifth day); zinc lotion applied to the wound. There has been some pain and scalding on micturition, the urine being ammoniacal. Ordered a mixture of quinine and iron every four hours.

10th.—Suppuration profuse and healthy.

Dec. 1.—Wound nearly healed.

12th.—After walking for some time to-day there was an attack of rigor and headache; some increase of suppuration in the wound followed, but subsided in the course of the next two days; and on the 20th he was discharged, cured.

ENTRAL LONDON OPHTHALMIC HOSPITAL.

Chronic Disease of the Palpebral Conjunctiva, incorrectly called "Granular Eyelid;" the true Nature of the Affection, usually a Sequela of the Puro-Mucous Ophthalmia; the Upper Eyelid the more affected; Association of Constitutional Causes; Importance of Recognising these; Treatment, local and constitutional; Effects of Injudicious Applications in maintaining and rendering the Affection worse; the Conjunctiva never quite recovers in Severe Cases; the Double Importance of knowing this.

(Under the care of Mr. Haynes Walton.)

Unquestionably this is an affection of much interest to practitioners of every grade, because it is common, it is severe, and difficult of cure. It is generally known under the false name of "granular eyelid," but as the ophthalmic nomenclature is gradually undergoing alteration, and becoming more accurate, as also simpler, we hope that in a few years the incorrect expression will be expunged, and then will die the erroneous pathological ideas that it begets. The essence of the disease consists in the enlargement of the papillæ of the conjunctiva lining the tarsi, a peculiarity of structure that is found on the palpebral conjunctiva only. Doubtless, with the hypertrophied state, there is more or less of morbid interstitial deposit; but it is a hidden symptom or affection, and only to be discovered by searching for it, and there should always be, according to Mr. Walton, a suspicion of its existence, and an examination of the back of the eyelids, in long-continued purulent ophthalmia, especially with any degree of vascularity and opacity of the cornea, or when with the latter state, there is more or less redness and swelling of the ocular conjunctiva. Hence, as would naturally be inferred, it is for the most part a sequela of the puro-mucous ophthalmiæ. The morbid change in the cornea is frequently confined to the upper portion, which points to the fact that the upper eyelid is generally the more seriously affected. Although there cannot be a doubt that the alteration in the eyelid is mainly instrumental in producing the corneal affection, we much incline to the opinion advanced by Dr. Mackenzie, that it would be erroneous to ascribe it entirely to this cause, but rather to regard it partly as an immediate result of the same inflammation which has ended in hypertrophy of the conjunctival papillæ.

Mr. Walton takes much pains to point out to his students that there are constitutional causes also, and without the recognition of which the principles of treatment must be faulty. These are, strumous habit, with its varying conditions of feeble vitality, paleness and thinness, and occasionally hectic fever. He is of opinion that to the local disturbance solely is treatment directed in the very large majority of cases, and, as he expresses it, "unfortunately for suffering humanity, relief is sought in escharotics, and this will be the case so long as surgeons suppose that the raised and irregular palpebral surface is an affection by itself, and is due to fungous vegetations springing from a smooth membrane."

His plan of treatment is to apply only those local agents which will soothe or check any uneasiness that exists, such as anodyne fomentations or the watery solution of opium, and if any astringent, to use it in a very dilute state. There are two local agents which are, in his opinion, of the greatest value: cold water and counter-irritation on the outside of the eyelids. The first is applied by means of the eye douche, or with bits of rag laid over the closed eye, for twenty minutes or half an hour, two or three times a day. The second is effected by some blistering fluid or tissue, on a space corresponding to the extent of the tarsal cartilage, and repeated from week to week, or less often, according to the direct and curative effect. The constitutional measures are directed to the prominent indications of departure from health, the most generally used being cinchona, iron, and flannel to the skin.

We would rather, in a report of this nature, in which we give the leading points of the practice of an individual in a particular disease, keep close to the subject, and therefore we shall avoid entertaining a question, now somewhat discussed, as to the impropriety or otherwise of using strong lotions and escharotics to the eye; but we should be unfaithful did we not record the oft-repeated remark of Mr. Walton, that the hypertrophy of the palpebral papillæ is very commonly maintained and rendered chronic and made worse by injudicious applications. A very marked example of the truth of this was shown in the person of a discharged soldier. The poor fellow was carrying out the plan of treatment by strong nitrate of silver lotions, provided for him on his discharge, and the conjunctivæ and the cornea were in a deplorable state. He was led to the hospital. After some difficulty, Mr. Walton induced this man, who admitted that he was getting worse and worse, not to use any local application but cold water. In a month the improvement was marvellous. Then, with tonics and counter-irritation, used as described, the cornea cleared sufficiently to enable him to read, and this was of course preceded by a marked amelioration in the lids.

A second example we noticed in a young compositor. One eye had been lost from accident. So far as could be gathered from him, at the end of a catarrhal ophthalmia, blue-stone was freely applied to the palpebræ, and repeated with scrupulous exactness weekly for months. The eyelids were rendered more diseased, while the cornea suffered greatly. The same treatment was adopted with the best effect, and the result, so far as we saw it, was satisfactory. But many months must expire before the best termination can be obtained in cases of such severity. Mr. Walton states that the natural structure of the conjunctiva is here permanently damaged. Now, if this be true, it is a fact that should be promulgated, for it is very important that a surgeon should have something like a definite idea of what is actual disease, or disease in an active state, and that change which is the mere ravage of a diseased action. It is evident that this tells in two ways: when a case has to be treated from the commencement, and when undertaken in its latest stage and after it has been in other hands. By the first we learn what may be expected, and by the second we are put on our guard not to over-treat. The introduction of this case reminds us of the judicious observation often made at this hospital: that in all cases of inflammation of the palpebral conjunctivæ, the papillæ are necessarily enlarged; the hypertrophy not being in such instances, therefore, a primary disease, and not requiring to be specially attacked with violent means. We were desirous of adding something about this affection in the infant and in the child, but our space will not admit. We may return to it.

ST. PANCRAS ROYAL DISPENSARY.

Congenital Extroversion of the Bladder in an Infant; Incurable Nature of the Affection.

(Under the care of Dr. Gibb.)

It is truly remarkable what strange and singular deformities occasionally present themselves to the notice of both the physician and the surgeon at our various public charities. Some of these are common enough, whilst others again are rarely to be met with. Of the latter class, we may include the peculiar and incurable congenital malformation know as extroversion of the bladder. It has been our province to have seen this affection as many as three or four times; on one occasion in a patient otherwise in good health, who had attained to adult age. The deformity consists of an absence of the anterior wall of the bladder with a deficiency in the corresponding part of the abdominal parietes. The posterior wall of the bladder is pushed forwards by the pressure of the bowels, and a tumour is consequently formed, which projects just above the pubes, and varies in size from a peach to that of an orange. The surface of this tumour is red, vascular, and papillated, evidently composed of mucous membrane; and at its lower part may generally be seen the orifices of the ureters, which either discharge the urine in drops or in a stream. A case of this kind we recently saw at this dispensary, which was first examined by Dr. Gibb on the 28th of February, the little patient being an infant born at the full period on the 25th of February, whose mother, aged forty-two, was a lying-in patient of the dispensary. This was her third child. Nothing unusual occurred at birth, but on examining to ascertain the sex of the child, the presence of something strange was determined. The condition of things already described as generally met with in similar cases was present; the tumour was very prominent, round, and globular, the size of a peach, the mucous membrane being of a blood-red, shiny colour, with the papillæ very distinctly seen. The orifices of the ureters projected forwards, at the lower aspect of the bladder, the size of peas, from which flowed urine drop by drop. The penis projected forward from the sides of the pubes, and was irregularly developed, the glans being divided into two portions; the urethra was an open canal running along its dorsum, and a fold of foreskin was situated beneath the glans. The testicles had descended into the scrotum. There was some cutaneous inflammation between the navel and margins of the tumour, which afterwards disappeared; and in the course of some days the prominence of the tumour became sensibly diminished, somewhat contracted, and assumed a deep pink colour, instead of the blood-red. Drops of urine still flowed as usual, occasionally in small streams when crying, and the general health was perfect. No doubt the ureters will become dilated into pouches after a while, and thus form reservoirs for the urine.

We subsequently saw the child, at University College Hospital, on the 25th of March, when it was shown to the pupils; the nature of the affection was mentioned by Mr. Erichsen, and he spoke of the incurable nature of the deformity. He described a good example of it in 1845, with a full description of the mechanism of the passage of the urine in similar instances.

We have no doubt many surgeons would not hesitate to attempt an operation for relief here, but it is at best a hazardous procedure, although we believe cases have turned out well in America.

Should this child grow up, a properly-devised instrument can be worn to receive and collect the urine. This consists of a hollow shield strapped over the part, communicating by means of a tube, with an india-rubber bottle that may be attached along the inside of the thigh.

Clinical Records.

ENCEPHALOID DISEASE OF SUPERIOR MAXILLARY BONE AND INTEGUMENTS.

This is a very painful case, which we would direct the attention of our readers to in University College Hospital. It is that of a man, aged fifty-six years, who was admitted for a second time on Feb. 6th. About four months before, he came in with obstruction of the right nostril, which may have been a polypus in the beginning, subsequently becoming malignant. At that time Mr. Erichsen found it necessary to slit up the side of the nostril, and remove the disease. It involved the nasal process of the superior maxillary bone, and has spread in a very rapid manner to the nose, cheek, and eyelids of the right side of the face, forming a sort of projecting tumour, with two or three large prominent tubercles on its surface. There is do doubt as to the true nature of the disease, all these parts having become infiltrated with soft cancer. Unfortunately the tegumentary structures are involved, else an operation might have been contemplated, had the disease been solely confined to the bone he disease is slowly spreading, and in the course a short time will destroy life. An example of roding cancer of the nose, where rapidity of rowth is in the reverse ratio to that under Mr. richsen's care, we saw a few months back at uy's. It had existed for a year only, in an eldery man, and was eating away the integuments, lthough no other part of the body was affected. ts surface on one occasion was destroyed by hloride of zinc; but when we saw the patient ast Mr. Cock had shaved all the ulcerated surface ff. An ulcer with elevated edges occupied the place of the nose.

REMOVAL OF A HORNY GROWTH, WITH CANCEROUS BASE, FROM THE LOWER LIP.

A FEW days ago we saw a case under Mr. Stanley's care in St. Bartholomew's, in which a horny growth, nearly an inch and a half long, hung from the scrotum. Its base had recently inflamed, and looked threatening, and it was accordingly removed by the ecraseur, together with a considerable portion of the surrounding skin. We believe that the disease did not prove on examination to have actually passed into a cancerous state. During the past week, however, an example of these irregular productions, in which the long-continued irritation had at length produced an actual cancer, has occurred. The patient was a man, aged fifty-eight, under the care of Mr. Hutchinson at the Metropolitan Free Hospital. From the lower lip, almost close to the right angle of the mouth, grew a horn, somewhat more than an inch long, tapering to the point, and at its base a little thicker than a cedar pencil. Its base of attachment to the skin was rather narrower than further on, and also softer, and it appeared to be in process of spontaneous exfoliation. The more serious part of the case, however, consisted in an ill-circumscribed induration of the lip about its base, the inner surface of which was raised, presenting the aspect of epithelial warty cancer. The man stated that the horn had commenced as a wart twenty years ago, and had never caused him any annoyance until latterly, when the lip had become swollen, sore, and the seat of much pricking pain. There was a little fulness under the jaw, but no distinct enlarged gland could be felt. Mr. Hutchinson excised the whole of the indurated part, with a good margin of healthy tissues, by the V-shaped incision. The apex of the V came about a third of the distance from the mouth to the ear, and its base included about half an inch of each lip. The wound was united on hare-lip pins, and has healed rapidly. It should be stated that the man is a great smoker. He knows of no relatives who have ever had cancer. The cure is a good illustration of a long neglected source of irritation, at length producing cancer, as is so often seen in the ordinary forms of cancer of the lip from smoking, chimney-sweeps' cancer, from soot, &c. Mr. Luke has at present under his care in the London Hospital an elderly man, in whom an old scar of the leg has taken on malignant ulceration. Those interested in horny growths from the lip may find a case very similar to Mr. Hutchinson's, recorded by Mr. Gray in vol. vi. of the "Pathological Transactions.' In it, however, the base had not become cancerous.

EXTENSIVE HYPERTROPHY AND NECROSIS OF THE FEMUR, WITH DISEASE OF THE KNEE-JOINT.

ONE of those unusual cases which sometimes present themselves to the notice of the surgeon, of extensive hypertrophy, associated with necrosis, we saw, at Guy's Hospital, on the 24th of March, under the care of Mr. Cock. We anxiously watched the result of the operation—amputation—in the present instance, which Mr. Cock performed in the usual antero-posterior flap manner. The patient was about thirty-five years of age, with old disease of the entire length of the femur, existing for several years, and likewise disease of the bones of the leg. He came in with several abscesses about the thigh, which were opened, and the thigh presented a very diseased appearance, with infiltration of all the tissues; the knee-joint had now become involved, and the general mischief seemed to be extending, and as no relief was now being obtained, amputation was resorted to. Before doing this, however, Mr. Cock stated that he thought the femur contained a sequestrum, and that when the leg was taken off, he would draw out the upper fragment, as he had no doubt the bone was affected pretty high up. Although the case looked one proper for amputation either at the hip or immediately below, Mr. Cock thought it best to do so at its middle. On sawing through the bone, it was found to be very large indeed, and extremely hard, in a state of eburnation. The section was two inches and a quarter in diameter, and resembled ivory. A small opening was present, corresponding to the cavity for the marrow, from which was pulled out a divided, small sequestrum nearly three inches long, the other portion being in the amputated leg. A great portion of it had evidently become absorbed, but still enough remained to keep up this state of hypertrophy from old inflammation. The parts were with difficulty brought together, from their thickened and infiltrated condition, and since the operation the patient has gone on satisfactorily. The cartilages of the knee-joint were destroyed, the ends of the bone were bare, and pus was present within the articulation. The entire femur was in a state of eburnating hypertrophy, with condensation, hardness, and ponderosity. The man had never had syphilis, nor had he taken mercury.

ANEURISM BY ANASTOMOSIS IN THE FLANK.

A RATHER unusual situation was chosen by Nature for this tumour, which was congenital, making its appearance on the right flank. The patient was a young man, aged about twenty-six years, who had been under treatment elsewhere, having undergone the use of various local applications without success. He accordingly came into University College Hospital, and had it radically cured by ligature, by Mr. Erichsen on the 1st of April. The vascular growth was three inches long by upwards of an inch wide, and latterly had been increasing in size. It was completely strangulated, under the influence of chloroform, by means of a series of double loops, about three-quarters of an inch apart, one series being of white, and the other of black, whip-cord, on each side. All the white loops being cut on one side, and the black on the other, the tumour was strangulated by drawing down and knotting firmly each pair of *white* threads on one side, and each pair of *black* ones on the other, thus dividing it into segments, each of which was strangulated by a noose and a knot: by *black* nooses and *white* knots on one side, and by *white* nooses and *black* knots on the other. There can be no doubt of the successful result of the ligature in the manner applied here, and a firm and healthy cicatrix may be anticipated after removal of the mass. In such cases as these, it is not uncommon to find the cicatrix degenerate into a hard, warty mass, which may require subsequent excision.

An infant with a circular nævus on the back had it strangulated by means of the ordinary quadruple ligature. This was done under chloroform, a practice, we regret to say, by no means universal at our London hospitals, when infants are the subjects for operation. Now, as humanity, besides prevention of the effects of pain and suffering, are the main-springs which guide us in our desire to give anæsthetics, surely the poor infant ought not to be an exception to their use. We still hope to see the practice of giving either chloroform or amylene to infants more generally adopted than it is at present.

VARICOCELE CURED BY SUBCUTANEOUS LIGATURE.

Two cases are now in the wards of Guy's in which Mr. Hilton applied subcutaneous ligatures of strong silk to the spermatic veins in a varicosed condition, which were allowed to cut their way out. One of these is a young man who has had varicocele for three years. The operation was performed three weeks ago; the cure is perfect, the veins being felt as hard cords within the scrotum. The other case was operated upon on the 28th of February, and the result is equally satisfactory. We have seen varicocele treated in a variety of ways with success; one of these was by the passage of a silver wire around the veins, as originally recommended by Vidal de Cassis. The radical cure of this affection, as our readers are aware, is often attended by considerable risk, from the inflammation which sometimes arises spreading to the cellular structures of the scrotum and cord. It is recommended, therefore, not to attempt it, unless the patient suffers great inconvenience and annoyance from the enlarged veins. In the first of the two cases the affection arose from a strain in lifting a heavy weight, and proved so serious an inconvenience as almost to incapacitate for work. We may look upon the result in these two instances as completely successful.

FIBRO-MELANOTIC TUMOURS OF THE BACK.

WE have given the above designation to the tumours which were removed from the back of a man aged about thirty-four years, by Mr. Cæsar Hawkins, at St. George's Hospital, on the 2nd of April, because they partook of a fibrous character, with black masses developed in one of the growths, the largest of which, at the same time, exhibited a soft yellowish structure in its interior, which leads us to believe the disease to be fibrous cancer of the skin. The large tumour situated to the right of the upper dorsal spine was of a purple colour externally, and was a recurrence of a former growth which had been extirpated some months ago, the cicatrix being unaffected. Another and smaller tumour was removed from the left of the spine; whilst a third was cut out near the shoulder. All these growths commenced about a year ago, and there is a tendency to their appearance in other parts of the body—thus resembling melanosis, although only one contained any black matter. Besides the removal of the one which was the progenitor of the largest of the three tumours, he had others removed in May, June, August, and November of last year; on the last occasion one from the axilla and one from near the spine. Mr. Hawkins observed that they resembled fibrous tumours, but the appearance of *the yellow* matter in the large one looked *very suspicious*. The cicatrix, however, is not affected in any instance, and the disease has appeared in a circumscribed form. We have no doubt that these growths will prove to be malignant, in which opinion all present, including the experienced operator himself, seemed inclined to agree.

TAPPING AN OVARIAN CYST.

A VERY healthy woman, whose age is fifty-one years, has just left the Royal Free Hospital, after having been under Dr. Brinton's care since the 12th of March, with an ovarian tumour of the left side. It was a single cyst, and had been growing but a year; it was not hereditary in its relationship; and as everything seemed favourable, the general health being perfect, it was tapped by Mr. Gant, in the recumbent posture, and thirteen pints of a dark-brown fluid, like coffee-grounds, drawn off. The abdomen was then bandaged, and continued so till her discharge. Should the dropsy of the ovary return at a future time, Dr. Brinton will be prepared to adopt most probably other means of treatment besides mere tapping—very likely injection of the cyst with iodine. The dark-brown fluid withdrawn in this instance, is of a character occasionally met with in these cysts, and resembled that from a similar tumour which was exhibited before the Pathological Society by Dr. Gibb, on the 18th of November last. There is this essential difference, however, between the two cases; in Dr. Gibb's, medullary cancer had invaded the lower or pelvic portion of the tumour, which, with other causes, produced death. Dr. Gibb found the colour of this brown fluid, in his own case, to depend upon the presence of both blood and cholesterine, but mainly of the former, which was clearly proved by the discovery of a good deal of iron by careful chemical examination, although the microscopic appearances of the blood-globules were somewhat doubtful. In his case also, he found albumen and fibrine; and in the smaller cysts, developed within the parent cyst, the fluid consisted almost entirely of gelatine, with some chondrine, fat, and albumen.

WORM-EATEN CRANIAL CARIES.

Now-a-days, instances of this form of caries are not so often seen as they were some twenty or thirty years ago, when it was the rule to treat syphilis, to an outrageous extent, with mercury. We cannot say for certain that the patient, whom we saw at University College Hospital, submitted to treatment for this affection on the 2nd of April, had taken a great deal of it, but the case bore a strong resemblance to the tertiary-caries seen in advanced stages of syphilis. The patient was a female, with four or five different circular ulcerations on the scalp, which had completely destroyed the integument, and leaving the bone quite bare, dried, and dark-brown. This state of things commenced several years ago, and now called for something more than mere constitutional treatment. There were no distinct exfoliations, but the outer table was in a completely soft and carious condition—that form known as the worm-eaten caries, from its peculiar appearance. All the affected portions were carefully gouged away, some of the fragments being as large as a shilling. A great deal of hæmorrhage followed, but it was checked, and the head afterwards bandaged. The case has gone on well since the 2nd; and, with mild constitutional treatment of a tonic character, we have no doubt she will very much improve in her general health and condition, and these openings heal up, although, as there has been the loss of much surface of skin, the cicatrices will be rather large.

LITHOTOMY IN A YOUNG MAN AGED SEVENTEEN YEARS.

The patient has been the subject of irritation of the urinary organs for the last twelve months, and from the history of his case it is clear a calculus passed from the kidney to the bladder during that period. Latterly, stone was suspected, but the symptoms were masked, as there was a very free discharge of mucus and pus from the bladder, much more than is usually met with in long-standing cases of stone. From the excitable and irritable condition of the patient, Mr. Fergusson thought he would choose lithotomy in preference to crushing the stone in the bladder, and accordingly performed the operation on the 14th of March, when the stone was found to be situated immediately beneath his finger when it was introduced into the bladder, and lying across it in a sort of pouch, not isolated, as some surgeons describe it, but a sort of sac, as it were, keeping it in one position. It was extracted with a scoop; it was about two inches long, and resembled a thick pencil in shape. The age of the patient was only seventeen, a very unusual one for stone, as it is generally treated long before this time. Mr. Fergusson has operated upon only two or three altogether at this age. The result of this case is a favourable one; not a bad symptom having showed itself since the operation.

DISEASED ANKLE-JOINT.

Time after time, the patient, a healthy man, aged about thirty-six, was an inmate of St. George's Hospital for an affection of his ankle which had been existing for sixteen years. Every now and then the joint would inflame and suppurate. Eight months ago, he was in this hospital for two months, and went out relieved. He has returned with an anxious desire to have the limb removed, as suppuration has again taken place; it is useless to him, and for years he has worn a wooden leg from the knee downwards. A circular fistulous opening is seen over the outer malleolus of the right leg, which communicates with the ankle, and notwithstanding there is much disease of the joint, the external surface is tolerably healthy. The foot and ankle were removed by amputation, about the middle of the leg, by Mr. Henry Chas. Johnson, on the 2nd of April; and on cutting into the ankle-joint, it was found a mass of disorganization, with breaking down of the lower end of the tibia; the upper surface of the astragalus was involved; and ulceration of the navicular and other neighbouring bones was present; there was also partial anchylosis of the ankle. Mr. Johnson remarked, that it was a question in his mind whether he would perform Syme's amputation at the ankle-joint, or amputate at the leg. He, however, determined to take it off at the leg, from the great extent of the disease at the ankle-joint. On looking especially at the opened up ankle, quite a cavity was seen extending upwards.

STRAIGHTENING CONTRACTED LIMBS.

One of the most striking features of modern surgery is the treatment at the present day of contracted limbs depending upon adhesions, which in some instances may be partly bony. Limbs in such a condition are forcibly straightened, under chloroform, with the best results. Sometimes it is necessary to divide tendons. On the 8th of April we saw an elderly female, aged fifty-three, at University College Hospital, with both knees at nearly a right angle, of eight months' duration only. There was no tension of the hamstrings, and the adhesion did not appear to be very strong, as the straightening was easily accomplished by Mr. Erichsen, while the patient was under chloroform. Slight crackling could be distinctly heard during the process. Under splints were then applied. We have seen this plan of treatment adopted perhaps more generally at this hospital than any other institution, and with the best results. We hope shortly to say a few words upon a curious case of double anchylosis under Mr. Paget's care, at St. Bartholomew's.

PARTIAL EXCISION OF THE ELBOW-JOINT.

This was one of those cases in which Mr. Lawrence, at St. Bartholomew's, stated, on the 7th of March, that there was not so much disease in the bones as would seem to justify the operation of partial excision; but unless it was adopted, an increase of the mischief in the surrounding textures was sure to ensue—an opinion in which his colleagues fully concurred. The patient was a young woman with a large fistulous opening on the inner side of the inner condyle, over the ulnar nerve, on passing a probe through which, it went right through the joint; sometimes in doing this bare bone could be felt. Her joint had been affected nearly two years. She did not suffer much at first, but had a good deal lately. There was no very great swelling, nor were the surrounding textures materially damaged, which was found to be the case during the operation. This consisted in making a single long incision from above downwards along the back of the joint, isolating the olecranon process of the ulna—the part especially diseased, and removing it with a pair of bone forceps. The synovial membrane of the joint was in a state of partial pulpy degeneration; and incipient absorption of the cartilages was going on, seen beautifully on the olecranon process of the ulna. On each side of the middle line the cartilage was completely removed from the bone. The cartilages of the humerus were very slightly affected. The triceps muscle had its natural red appearance. Mr. Lawrence observed he could not anticipate any other than a favourable prognosis of the disease. Four weeks after the operation (April 4th), on seeing the patient in the wards, we found the wound almost closed. There was no inflammation, some swelling, and a little pain. The splints had been on the whole time, and Mr. Lawrence declared there was nothing amiss about the joint. However, although this case may turn out well, we think when any articulation is once opened for the removal of disease, a slice of the sound articulating surface ought to be removed, as well as the diseased portions. This, at any rate, is the doctrine which is gaining ground in these days of excision of joints.

LACTIC ACID AS A REMEDY IN DYSPEPSIA.

The great frequency of applicants for the relief of affections of the stomach amongst the out-patients of the Royal Free Hospital, and the various forms of those complaints depending for the most part on a dyspeptic state, has led Dr. O'Connor to test the value of lactic acid as a remedy in cases of this description. Before, however, having had recourse to its use as a medicinal agent, and being desirous of comparing its value with that of the so-called pepsine, a very expensive article, he tested the digestive power of each by placing an equal weight of animal fibre in an equal portion of both of those agents separately in an equal temperature, when he found that the fibre placed in the lactic acid was reduced to a pulpy state in a much shorter time than that placed in the so-called pepsine. Guided by this experiment, Dr. O'Connor prescribed the lactic acid in nearly fifty cases, and the result fully justifies him in recommending it as a valuable agent in all dyspeptic states. He has also informed us that in many cases of evident structural disease of the stomach, in which the smallest amount of solid food was productive of excruciating pain, the administration of lactic acid had a decided and marked effect. It is of great importance that the lactic acid employed should be chemically pure, and of uniform medicinal strength. The acid which he has found coming up to the proper tests of purity has been prepared by Mr. Bastick. The dose of the acid varies from twenty-five minims to two drachms in a little infusion of columba, which should be taken during a meal.

RECTANGULAR ANCHYLOSIS OF THE HIP AND KNEE.

If our readers have sometimes noticed the gyrating performances of Pantaloon in the pantomime, they must have observed, when *about to* pirouette, he stands firmly on one leg, and holds the other out at right angles from his body before commencing his *pas de danse*. The appearance is so striking that it cannot escape attention. One would hardly expect to see such a thing in an operating-theatre, yet an example came under our notice at Bartholomew's Hospital on the 4th of April, with this great difference, that instead of a wonderful flexible joint, there was complete bony anchylosis, with dislocation of the head of the thigh-bone, in this truly remarkable position. The patient is a young man, aged twenty-four, who had an abscess of the thigh twelve years ago, which was opened. This was followed by profuse discharge and the formation of abscesses in other parts of his body, especially about the hips. There was a clear history of disease of the knee-joint, with probable implication of the lower part of the femur. There was anchylosis of both knee and hip joints; the true nature of the disease of the latter Mr. Paget said was uncertain. From the very beginning of this disease, he was in the habit of lying with his thigh, for some years, stretched out, to relieve pain; and when he ultimately got about, he found it perfectly fixed at right angles to his body. Under chloroform, on the date above mentioned, the limb was examined by Mr. Paget, who found the head of the femur dislocated partly on the brim of the acetabulum, and partly on the obturator foramen, and firmly anchylosed to the pelvis. An effort was made to break up the bony adhesions by forcible flexion, but it could not be accomplished without great force, and the risk of fracturing the femur itself. The patient was therefore left quiet for the present. Mr. Paget remarked, that by dividing the neck of the femur, or below the trochanter, so as to get it straight, the limb would most certainly be more useful than at present. We will watch whatever proceedings may be adopted, and give them shortly.

THE ACTUAL CAUTERY AS A MEANS OF COUNTER-IRRITATION.

Those of our profession who are sceptical as to the value of the actual cautery in producing very powerful counter-irritation, which is generally followed by actually the best results, would do well to watch some of the cases in our large hospitals thus submitted to the effects of this powerful agent. Their minds will become disabused of the belief that much after-pain exists, on the patients emerging from their anæsthetic condition. We again saw this verified on the 1st of April, at University College Hospital, in the person of a stout, young, and healthy girl, who had suffered from pain and inflammation of the tarsus for about two years. The pain especially was referred to the region of the cuneiform bones, with a fixed character, however, over the scaphoid, which was enlarged and tender. The external surface of the foot was perfectly healthy, and of a natural colour. The actual cautery was applied in a series of lines over this particular part of the foot, under chloroform, and water-dressing used after it. In this instance, as in numerous others we have watched from time to time at other hospitals, no pain was felt afterwards. Now, this depends upon a point in the operation which it is well to remember, and that is, to have the iron heated to a *white heat*, for if mere redness is produced instead of this white heat, we burn but do not destroy, and pain will really ensue under those circumstances. The actual cautery can be employed as a means of producing very powerful counter-irritation in many internal affections of the body. It has been used to destroy the part from whence the aura epileptica sets out in that dire disease, epilepsy; and we have no doubt it would prove of great value in cases of internal neuralgia, which oftentimes baffle every means of attempted relief.

SPONTANEOUS GANGRENE OF BOTH FEET, WITH SEPARATION AT THE EPIPHYSIS.

The following abstract, for which we are indebted to Mr. W. E. Daniel, house-surgeon to St. Bartholomew's Hospital, is one of a curious and rare instance of spontaneous gangrene in a child when nine years old, arising, as we heard Mr. McWhinnie say, partly from debility and partly from exposure to cold.

M. A. C——, a healthy-looking young woman, aged nineteen, came up from the country, and was admitted into St. Bartholomew's Hospital. She states that ten years since, without any assignable cause, both her feet were attacked by gangrene; they became discoloured and very painful, and within six or seven weeks of the first appearance of disease, both feet had separated sufficiently for a surgeon to remove them at the joint between the tibia and fibula on the one hand, and the tarsus on the other. Previous to that event she says she was generally more or less complaining, suffering from sickness, headache, &c.; but since that time her health has been good, and is at present excellent. The stumps are sore and painful, so much so that she cannot bear artificial feet, which she has been in the habit of doing. She has now therefore come to London to have fresh stumps made.

March 20th.—To-day Mr. McWhinnie operated on the left leg. He has delayed operating till now, fearing erysipelas, which during her stay at the hospital has been showing itself in a severe form in the same ward.

April 4th.—The stump is looking very well, and the patient's health is good.

7th.—The patient is still doing very well, and is anxious to have the other limb operated upon.

There can be no doubt that the separation of the feet in this girl took place at the epiphysis, and a sort of natural Syme's operation at the ankle-joint ensued. Mr. McWhinnie is remedying the soreness of the old stump by amputating a little higher up.

INJECTING A COLD ABSCESS OF THE BACK WITH IODINE.

There was some doubt in this instance whether or not there was disease of the bones. The patient was a worn and delicate-looking man, aged thirty-six years, who has had a swelling at one side of the last lumbar vertebra for the last four months. The probability is the bones are diseased. The abscess was evacuated by a trocar and canula, and a good deal of thick curdy pus was let out by Mr. Erichsen on the 8th of April. It was then injected with tincture of iodine, and it is to be hoped contraction of the cyst with eventual closure will ensue. On the same occasion an elongated abscess in the right groin of a strumous boy, aged fifteen, which came on suddenly a month ago, was treated in a similar manner.

Of late years injections of iodine into cold abscesses, bursal accumulations, ovarian cysts, fluid cystic tumours, dropsy of joints, and even dropsy of the abdomen, have been much employed, especially by the French. Our pages recently have afforded abundant evidence of their use in ovarian cysts and abscesses. We shall continue to present examples to our readers of the various cases in which they are employed.

TAPPING HYDROCEPHALUS.

When dropsy of the brain appears to have resisted all the means which have been adopted by the physician to produce absorption, or to check the effusion of the water, the question of tapping not unfrequently comes up for consideration. And really there does seem to be some chance for the child when the testimony for and against is well weighed, when we come to reflect upon the many successful cures which have followed this procedure. Dr. Conquest saved ten in nineteen cases in which he performed it; and Dr. Watson, in his lectures, says that this expedient, though doubtless hazardous, is really a valuable one. We, therefore, anxiously watched for some time a child, aged seven months, which had been sent up from the country, to have something done for it, at St. George's Hospital. Everything had been tried in the way of internal remedies, without the slightest benefit; and the enlargement of the head was very great indeed; it was now chronic, and there was a chance of recovery. Mr. H. C. Johnson withdrew about four ounces with a fine trocar some months back; the head was bandaged, and a ring of mercurial ointment was applied around one arm, so as to keep up mild mercurial action. The head appeared to be about thirty inches in circumference: and small tappings were to be repeated several times. We learnt, to our sorrow, that the child remained but for a short time in the hospital; it had become somewhat drowsy, and was taken away by the mother. The tapping, therefore, in this instance, had not a fair trial, and the infant has been lost sight of.

WEBBED FINGERS.

Amongst the congenital malformations occasionally met with are webbed fingers and toes, but without any disease of the bones. When such is the case, they can be separated with the knife; and if careful dressing is applied, perfect union of the edges of the long wound is obtained with useful digits. A child, with this condition in both hands, confined to the ring and middle fingers in each, was submitted to operation by Mr. Fergusson, at King's College Hospital, on the 21st of March. One hand only was restored, the other being reserved until perfect union has taken place. This was done for the purpose of allowing the child the use of one hand whilst the other was undergoing the process of healing. When this condition is not congenital, and depends upon burns, there is a greater difficulty experienced in preventing the fingers returning to their original condition.

A very different deformity from a webbed finger is a supernumerary great-toe. We saw a child with one some time back at the London Hospital, which was removed by Mr. Wordsworth. It seemed to be a distinct toe, with two phalanges. Mr. Curling observed to the pupils it was far better to remove these peculiarities in childhood than to leave them until adult age.

GLANDULAR TUMOUR OF THE NECK.

Two enlarged glands were removed by Mr. Erichsen, on the 8th instant, at University College Hospital, from the neck of a boy who had been troubled with them for six years in the submaxillary region. They were inconvenient and troublesome, and were not amenable to treatment. If allowed to remain, moreover, they would ultimately form a considerable mass. On examining them afterwards, they presented on section hypertrophied gland tissue, the largest being the size of a sheep's kidney. There was a good deal of bleeding from one or two small vessels, but it was effectually checked.

STRANGULATED FEMORAL HERNIA IN A MAN.

There is at the present time in the London Hospital a man, aged thirty-three years, who was operated upon for strangulated femoral hernia, by Mr. Curling, on the 7th instant. He suffered from symptoms of strangulation only twenty-four hours. At the operation the hernia was found to consist of omentum and a knuckle of intestine; the former was adherent, and had evidently been down for some time, although the patient was not aware of it. Reduction could not be accomplished without opening the sac. The patient is going on well, and will, we have no doubt, make an excellent recovery. Femoral hernia is by no means common in males, although it is occasionally to be met with, as in the present instance.

LARGE OVARIAN CYST INJECTED WITH *IODINE*.

This was rather an interesting case, in a single young woman, aged twenty-one years, by occupation a nurse, who enjoyed good health up to July, 1856, when her abdomen began to swell, and increased until it measured thirty-seven inches in circumference, when she was admitted, on the 4th of November, into University College Hospital, under the care of Dr. Garrod. There was some obscurity about the case; the swelling was supposed to be ascites, from its uniform character. She was tapped, but the fluid resembled more that from an ovarian cyst than ascites. It rapidly filled, and she was tapped a second time about six weeks ago. The conclusion was come to that it was probably an ovarian cyst. After this second tapping, the cyst filled very quickly a third time, and on the 8th of April she was a third time tapped by Mr. Erichsen in the semi-erect posture, when about fifteen or sixteen pints of a thick, viscid, ropy, and gelatinous fluid, of a dirty greenish-blue tinge, were evacuated; its specific gravity was 1026. This made three tappings in four months. Five fluid ounces of tincture of iodine were then injected, and after remaining in a little while, three and a half came away. She suffered no inconvenience, and was put to bed. Not the slightest doubt remained on our minds as to its being an ovarian cyst, on seeing the character of the fluid. Mr. Erichsen, in some remarks which he made, thought the plan of proceeding here, by injecting the cyst with iodine, the most applicable and the least hazardous in this particular case, as compared with ovariotomy. The patient is young, not suffering from any disease, and there is a fair prospect of success in the treatment adopted. On the 15th, we learnt she has had tenderness ever since the operation, and was very low; the abdomen was becoming prominent, but not from fluid, being tympanitic. She was much prostrated after the operation, most likely depending upon the iodine, and was given brandy and wine every half-hour. She then began to improve, but has had a relapse, and is not now so well. We will again refer to this case.

GOOD EFFECTS OF THE ECRASEUR IN REMOVING TUMOURS FROM THE GENITALS.

In the latter part of February, a tumour, the size of an apple, which proved to be hypertrophy of the clitoris, was removed from a girl aged twenty-one years, with the ecraseur, at Bartholomew's Hospital, by Mr. Coote. It followed the patient's confinement, three months before removal. When separation had been almost completed, and only three links of the ecraseur had to be drawn in, the chain broke; but the tumour was easily detached with a knife, with much bleeding from a small vessel. The parts healed up very nicely, and the girl went out quite well.

A second case of tumour was treated in the same manner on the 11th of March. In this instance, it arose from hypertrophy of the nymphæ of six months' duration, in an unsteady female, aged thirty-eight years, with a phagedænic ulcer of the right leg. As the form of the tumour was somewhat elongated, a small portion of it was cut at its lower part, whilst the greatest portion of the mass was removed with the ecraseur by Mr. Coote, and no hæmorrhage at all followed. When we last saw this patient, on the 4th of April, the parts had firmly healed up. This instrument does appear to be useful in the removal of such growths as these, but we watch in vain for its general adoption in the various hospitals. When employed, it would seem as if done experimentally. Recently, a surgeon in Paris, we are told, amputated a leg with the ecraseur; the bone, however, had to be sawn through.

AMBUSTIAL CICATRIX OF THE NECK.

A YOUNG girl, in King's College Hospital, had a contracted cicatrix of the neck in front from a burn several years ago; it drew down the chin and underlip so as to produce much inconvenience, and at the same time considerable deformity; the mouth could not be closed. When under chloroform, Mr. Fergusson made a V incision, and loosened the integuments around, which to some extent remedied this state of things. Attention would then be paid to keep the parts considerably on the stretch during cicatrization. An arm was treated upon this principle by Mr. Fergusson a few weeks back, which was at the same time shown to the pupils, having had splints applied to keep up extension. This patient was also a young girl, whose elbow was contracted from a burn, with a large web of tissue between the arm and forearm. The case is doing well, and fortunately the elbow-joint itself is not affected, thus permitting of flexion and extension. The cicatrix was very hard, and all the hardness has gone off from the mere extension. Both patients were healthy girls.

ENORMOUS HYDRO-HÆMATOCELE, CONTAINING A COFFEE-COLOURED FLUID; INJECTION WITH IODINE.

We do not see any reason why a large hydrocele may not be treated by iodine injections, with a fair prospect of success, as well as an ovarian cyst. Mr. Curling mentions, in the last edition of his valuable work on "Diseases of the Testis," that he seldom injects a hydrocele when the fluid exceeds ten or twelve ounces, as the effects are severe upon the large extent of serous surface. In such instances he taps, and waits for a smaller quantity to be secreted. The successful results which have, however, followed the injection of a large ovarian cyst encourages a trial in a large hydrocele, although we will freely admit that the lining membrane of an ovarian cyst differs very materially from that of an hydrocele. On the 1st of April, an old man, aged sixty-six years, with a hydrocele as large as a child's head of seven years old, in which the penis was completely buried, the orifice of the foreskin, only being visible, was tapped by Mr. Erichsen at University College Hospital, and upwards of two pints of a dark, chocolate-brown, thick fluid withdrawn. It was then injected with two drachms of the compound tincture of iodine, which was followed by a little heat, but no pain. Its origin was attributed to sitting on one of the testes, and it has been growing seven years, although tapped about eighteen months ago, when about the same quantity of a similar coloured fluid was withdrawn. It subsequently enlarged, and became a large pendulous mass, with red and tender skin, accompanied with difficulty in micturition.* These large hydroceles generally contain a darkish fluid from the presence of cholesterine. There was some blood mixed with the fluid in this instance, as well as a good deal of cholesterine; no spermatozoa were found by the microscope. On the 8th of April, we found the sac had again filled; but he had had no pain after the injection of iodine on the 1st. On the 15th it was reduced half the size again, and there was a disposition towards absorption. It was again tapped on the 22nd, and some five or six fluid ounces of a clear, dark-yellow fluid withdrawn, all that there was. It was then injected with the tincture of iodine, which was allowed to remain. We have no doubt of the successful and radical cure by this second tapping.

EXTENSIVE NECROSIS OF THE FEMUR.

A VERY remarkable case of this affection, in the left thigh of a boy aged about seven years, was submitted to treatment by Mr. Skey, at St. Bartholomew's, last week. The disease in his thigh commenced two years ago, with the bursting of numerous abscesses, leaving fistulous openings and sinuses running in all directions. There was an opening at the inner side of the thigh, just above the knee, another seven inches higher up, another to the left of the upper and external edge of the patella; there were four openings on the outer side of the thigh; in all, about seven of these fistulæ, resembling so many gun-shot wounds. Besides these, the knee and thigh were somewhat swollen. The boy's general health was, notwithstanding, pretty fair.

Mr. Skey made an incision about six inches long, on the outer side of the thigh (the boy being on his right side), running the fistulous openings together, which were in a line with one another. There was much free hæmorrhage after it, which was controlled by a couple of ligatures. He then removed a quantity of vascular fibro-fungous-looking matter, which formed a sort of casing around the enlarged femur, at the lower part of which was a prominent buttress of bone, which, with other affected portions were carefully removed with the gouge and mallet. On getting into the cavity of the femur, no sequestrum was to be found, but in its place some loose gelatinous substance, which was most properly removed. All affected structure was scraped away, so that a healthy wound, with now apparently healthy bone, remained. Suppuration will become established, and in the course of a few weeks a cure will be accomplished.

This was a very instructive case indeed, and presented peculiarities which, though rare, we now and then witness. Thus, there was no sequestrum, the interior of the shaft being occupied by some soft material instead, and the apparently healthy shaft was surrounded with a quantity of material which may possibly preponderate in fibrous elements. Our clinical records bear abundant evidence that a sequestrum is not always met with, even when there is good reason to suspect its presence.

Reviews and Notices of Books.

Clinical Lectures on the Diseases of Women and Children. By GUNNING S BEDFORD, A.M., M.D., Professor of Obstetrics, the Diseases of Women and Children, and Clinical Midwifery, in the University of New York. Fourth Edition, carefully revised and enlarged. New York: 1856. pp. 602.

WHEN four editions of a work of above 600 pages are required within a period of fifteen months, ample proof is at once given that value of some considerable amount must attach to such publication. It is true reputation may be but of ephemeral character, high as it rises for the time being, and fifteen months in themselves constitute but a narrow foundation for a basis of permanent popularity. But a careful perusal of Dr. Bedford's work has led us to believe its value will continue to be acknowledged, and himself to be recognised as a most able teacher and acute practitioner of medicine. The book before us is, in some respects, unlike any other we are acquainted with, though a near approach is made to some of the writings of the senior Dr. Meigs. It consists of a series (xxxi.) of clinical lectures, each lecture composed of practical remarks on, and illustrations of, different diseases, cases of which have, on certain days, presented themselves at the "*New York Obstetric Clinic*," before Dr. Bedford and his pupils. This "clinic" was founded by the author, in 1850; since which time more than 8000 cases of disease have come before the "class," the present volume exhibiting a general but unsystematic exposition of the doctrines and practice there inculcated and followed. Dr. Bedford's treatise is of the most practical character; everything is made to tend towards the relief and treatment of disorders, and, at the same time, remarkable acuteness is shown in quickly arriving at a good diagnosis. To go at once to the point, it may be said to be the pervading characteristic of the teaching of the author. His pretensions constitute most admirable reading for students, and it is in relation to the latter that we deem the chief value of the work before us to lie. Practical hints of great utility can, no doubt, be gleaned from it by practitioners of experience, but it is rather as a clinical text-book and guide for the student that its popularity must be *explained*. With this praise we must mix some censure for the style in which many of the lectures have been delivered. Two great faults have been committed in this respect. In the first place, the conversations and dialogues, which are supposed to be carried on between the "Professor" and patient, are overdone, exaggerated, and often unnatural. A certain amount of aid to clinical exposition might have been attained by their occasional adoption; but their employment, as followed by Dr. Bedford, is ridiculous in the extreme—e.g., under the title of "Falling of the Bladder, in a married woman, aged twenty-five years," the following dialogue occurs:—

"'Why do you think you have falling of the womb, Mrs. C.?' 'Because one of my neighbours told me so, sir.' 'Is that neighbour a doctor, or a woman?' 'Oh, her name is Mrs. Mulligan; but the doctor told me so too.' 'What is Mrs. Mulligan's business?' 'She takes in washing, sir.' 'Does she practise medicine?' 'Oh, no, sir.' 'What does she know about falling of the womb?' 'I dont know, sir; but she told me that her cousin, Mrs. Higgins, had falling of the womb, and she knew I had it too.' Well, gentlemen, this is one species of logic, and you will often meet with it in practice. 'When the doctor told you that you had falling of the womb, did he examine you before giving his opinion?' 'No, sir; he was Mrs. Mulligan's doctor, and he called over one day and said that Mrs. Mulligan was right, and that I had falling of the womb.' 'Did he order you to do anything?' 'Yes sir; he told me to put a plaster on my back.' 'Did Mrs. Mulligan know that the doctor ordered the plaster?' 'Yes, sir; and she said it would cure me, as it did Mrs. Higgins.' 'Did you use the plaster?' 'No, sir; because I don't see how a plaster on my back could draw my womb up.' 'Nor do I either, my good woman.'"—p. 277.

The other fault we have to complain of is the rather too frequent interruption of the history of the case for the utterance of some moral platitude or exhortation. To call the attention of the students to the moral aspects of their relation with their patients, and particularly with female ones, is fit and proper; but once or twice done, surely that is sufficient, without repeating the tale.

The unsystematic character of Dr. Bedford's work does not permit our making any general analysis of its contents; but we would, in concluding our notice of it, cordially recommend it to all practitioners generally, and to the senior student of medicine in particular.

The Constitution of Women, as illustrated by Abdominal Cellulitis, or Inflammation of the Cellular Membrane of the Abdomen and Pelvis, By Charles Bell, M.D., F.R.C.P. Edin. Edinburgh: Sutherland and Knox. London: Simpkin, Marshall, and Co. pp. 44.

Any one who has ever indulged in the sentimental habit of star-gazing on summer nights, will doubtless have cogitated upon the "whither" and "whence" of shooting stars. Such an one, too, will have duly admired these beautiful meteors, "Splendidior vitro," and probably cudgelled his cerebral convolutions to produce fourteen lines of madness upon the aforesaid phenomena. Now, Dr. Bell's essay bears a very striking resemblance to a shooting star, not in the matter of brilliancy, but in respect of the wonderful obscurity which envelopes its "whither" and its "whence." In plain English, we cannot discover the starting point of the argument, nor exactly what the argument is, nor to what conclusion the author desires it shall tend. We have, moreover, pondered over the title of the essay, and have failed to discover any real or essential relation between "Abdominal Cellulitis" and the "Constitution of Women," or to see how the latter can be illustrated by the former. If there were anything sexual in the nature of cellulitis in the female, we could understand the title; but seeing that inflammation, exudation, and suppuration, are of the same nature in one sex as the other, the first part of the title of the essay is quite irrelevant to the remainder. That women are more liable to abdominal and pelvic cellulitis than men is not dependent upon their sex *per se*, but upon the incidental violence and conditions, which their sex and habits subject them to. A work on fractured bones might just as well be entitled "The Constitution of Men, as illustrated by Fractures of the Skeleton;" because, forsooth, men are more liable to broken bones than women. Dr. Bell may say, "What's in a name?" But we beg to assure him that a name is of great importance, and that a glaring absurdity upon a title-page is the surest way to keep a book unread.

The first page of Dr. Bell's *brochure* informs us that—

"The phlegmonous inflammation which affects the interstitial or cellular substance of the abdomen has been entirely overlooked as a distinct disease by all our systematic authors on midwifery and the diseases of females; and almost the only information we have regarding it in this country, previous to Dr. Doherty's valuable paper 'On Chronic Inflammation of the Uterine Appendages,' is contained in some isolated cases, widely scattered through our periodical publications, and works on midwifery, in which it is described under as many denominations nearly as there are authors."

In illustration of this sweeping assertion, our author quotes no less than twenty-seven persons who have written on the subject, eleven of whom, being countrymen of our own, reported between them *fifteen* cases, besides *several* by Dr. Seymour and *several* by Sir Charles Clarke; while "Astruc," says Dr. Bell, "entered *fully* into the consideration of abscesses connected with the womb, and described their symptoms *minutely*." This want of harmony between the exordium and the next fourteen pages of the pamphlet is very singular. It certainly is very difficult for some persons to begin a composition; but however terrific may be the throes of a labouring author, we humbly conceive that it is hardly excusable to make a sweeping assertion *in limine*, and then studiously endeavour to confute it in the following third of the work. It appears to us, too, that Dr. Bell has betrayed an unnecessary amount of grief that authors should have bestowed such a variety of names upon the disease in question; a little consideration will show, that various as have been the exact names given, they have, in the main, only been variations of a correct generic conception of the pathology of the affection. That the disease was an inflammation, or an abscess, or a "dépôt laiteux," or an "engorgement laiteux," is a matter of very little moment, for the nomenclature would naturally be determined by the prevailing theories of the day. The important point is, did former authorities know the disease, have they described it with as much accuracy as could be expected, and did they know how to treat it? Our answer is, Yes. They knew far more about the matter than Dr. Bell imagines. Let anyone read the first fourteen pages of his pamphlet, and we will guarantee him a very tolerable knowledge of the pathology and history of the disease. And yet we are told that it had been "entirely overlooked" until Dr. Doherty's time.

After having depreciated the ante-Dohertian writers by his exordium, and subsequently confuted himself most successfully, Dr. Bell proceeds to notice later authorities. After Dr. Doherty, Dr. Churchill is the first whom he honours with a remark. Then Professor Simpson is accused of having "added nothing to our information with regard to the symptoms and character of the disease, while he seems desirous to claim the merit of having first pointed out that this disease is liable to form several species of deep pelvic fistulæ," and is broadly hinted to have cribbed his ideas from Puzos and Levret. Dr. Lever is next disposed of as follows:—"He"—i.e., Dr.

Lever — "advocates the opinion of its being a chronic disease, which occurs sufficiently often to attract the attention of the accoucheur; but it is very remarkable that the cases which he reports, and on which this opinion seems founded, do not justify such a conclusion, as they are neither chronic in their symptoms nor duration. But of this subject we shall say more in a subsequent part of this paper." In spite of this flourish, however, Dr. Bell preserves a most judicious silence about the duration of the cases, and tries to pin his readers down to a definition of what a chronic abscess is, winding up his observations thereanent by a melancholy platitude about careful diagnostics. We have taken the trouble to tabulate Dr. Lever's cases and Dr. Bell's also.

	Dr. Lever.			Dr. Bell.	
Case	I.	Several weeks.	Case	I.	17 to 18 weeks.
"	II.	Not apparent.	"	II.	6 weeks.
"	III.	3 weeks.	"	III.	6 or 8 weeks at least,
"	IV.	11 weeks.	"	IV.	5 to 6 weeks.
"	V.	5 weeks.	"	V.	6 weeks.
"	VI.	5 weeks.	"	VI.	4 weeks.
"	VII.	8 weeks.			
"	VIII.	13 weeks.			
"	IX.	13 weeks.			

Average duration, from first symptoms of inflammation or application of presumed exciting cause of inflammation, to suppuration or inflammation—

In Dr. Lever's cases..	8 weeks.
In Dr. Bell's cases	7½ weeks.

So much for Dr. Bell's deductions as to acuteness in point of duration, and his attack upon Dr. Lever's accuracy. Our author goes on to say again that cellulitis generally does not occur in the kind of subjects who would be likely to have chronic or cold abscess. Let us look at his own cases:—1. Is not spoken of as regards constitution. 2. Had been exhausted by her confinement, and a mammary abscess. 3. Was "very pale and emaciated." 4. Had a "painful and tedious labour." 5. Was "of delicate and strumous constitution;" and, 6, was a pauper, who had been delivered of an illegitimate child by a bungling midwife. Thus in every case where the general condition of the patient is referred to, the statement of the author is diametrically opposed to the conclusion he draws. He ascends to a general law by the curious method of ignoring his particular instances. On referring to Dr. Lever's cases, we find that No. 1 occurred after puerperal fever. No. 4 was a strumous-looking woman who had had a lingering labour; 7 was a strumous subject; 8, died of phthisis a few months after delivery; and, 9, had been debilitated by diarrhœa and two previous miscarriages. Thus five out of nine were eminently predisposed to chronic or subacute abscess. On the whole we are inclined to think that Dr. Bell did not read Dr. Lever's cases at all, and that he forgot all about his own before writing the first part of his own paper. Dr. Priestley's elaborate description of the pelvic fasciæ is dismissed as if it were beside the question.

We are constrained to ask one or two questions:—Who was M. Recamie? Is he the same person as M. Recamier? What does our author mean by the word "*incidently?*" Is it a variation upon *incidentally?* What kind of a worm is *a lumbrici?* Is "for which she *got* an astringent mixture" an approved style at modern Athens? And was it necessary to report the virginity of Miss M.?

Again: here is a passage at p. 24, which defies our most strenuous efforts to understand it:

> "Cellulitis, in place of always being a primary disease, the result of cold or fright, is frequently, in reality, secondary disease called into action by some mechanical exciting cause; and that, from its deep-seated situation, and the peculiar delicacy and excitable nature of the surrounding parts, is often obscure in its origin, and virulent in its character."

This is what we call writing round a corner; and as we are persons of ordinary mental vision, we do not profess to be able to accomplish the feat of looking round it.

The cases reported are in themselves very interesting, and they are not badly described; but there is a great want of cohesion in the essay itself. The style is meagre, and the punctuation is inexcusably defective. The most redeeming features about the pamphlet are the evident interest the author takes in the subject, and the careful industry with which he has collated his authorities.

On Rheumatism, Rheumatic Gout, and Sciatica; their Pathology, Symptoms, and Treatment. By Henry William Fuller, M.D. Cantab., F.R.C.P. London. Assistant-Physician to St. George's Hospital, &c. &c. Second Edition. London: John Churchill. pp. 464.

It is the fate of such a large number of the books we are deluged with to fall flat upon the public ear, that the bare fact of reaching a second edition is sufficient to challenge inquiry. Works embodying but one idea, and that often a very foolish one, are not seldom allowed to gravitate into the limbo of forgotten inanities by the unaided force of their own stupidity. Were it not that we are often inclined to say nothing, out of pure compassion, we might safely leave an infinite number of books to work out their own condemnation and oblivion. To show up an author's false facts, false analogies, and false deductions, is not unfrequently a work of supererogation, inasmuch as it is often impossible to display his errors and absurdities more conspicuously than in the type, and on the paper of his own book. Should they struggle into a second edition by the *vis-à-tergo* of a long purse, we strangle them without mercy. It may be stated then, as a general rule, that the second edition is more worthy than the first.

Dr. Fuller's work justifies our opinion. It is comprehensive without being diffuse, argumentative without being polemical, exact without excessive minuteness, and authoritative without dogmatism. The general doctrines of rheumatism and its allied diseases have become so much public property now, that it is hardly necessary to say more than that they are clearly restated in the volume before us. It is the practical part of Dr. Fuller's treatise which is at once the most interesting, and creditable to its author. In speaking of the treatment of rheumatic fever, stress is laid upon the proposition, that what is wanted is "far less the discovery of any new medicines than the adaptation of our present remedies to the exigencies of each particular case." The causes of so many conflicting opinions and modes of practice are shown to be the result of an imperfect appreciation of the nature and exigencies of particular cases. It has been too frequently the case that practitioners have treated the disease as an invariable quantity. Losing sight of the truth that different cases of rheumatic fever differ most widely, not in their essential nature, but, in their collateral circumstances, remedies have been applied to the disease without care or discrimination. The result has been a lamentable spectacle of contradictory experiences, dependent not upon the invalidity of each person's observations, but, upon the fact that these various experiences, have not related to identical morbid states, only to similar ones. The indications which should govern us in the application of the various remedies at our command are very lucidly set forth. To neutralise the poison, and to eliminate it, are cardinal points; to allay excessive nervous and vascular excitement, to check the formation of the poison, and to restore perfect assimilation, are objects which complete the *ratio medendi*. The individual drugs and plans of medication are passed in review *seriatim*. While cordially concurring in most of the opinions of our author upon practical points, we cannot help thinking that rather too much value has been attached to opium. Valuable as this remedy is, we think Dr. Fuller overstates the doses which may be given with advantage. As for treating rheumatic fever with opium alone, nothing can convince us that such a course is not most calamitous in its results. Living, patients treated in this manner lie in a mixed state of depression and irritability; and if we were to call to mind the cases of most extensive organic mischief we have seen in the dead-house, they would certainly be amongst those treated by opium.

The subject of heart complications is fully discussed. Unfortunately, there is an air of completeness about the question of cardiac diseases, lent to it by the perfection of modern physical diagnosis, which does not correspond with clinical experience. Given a case of endo- or peri-carditis, we are yet very much at a loss for means by which to allay perverted vascular action and limit effusion. The routine of calomel and opium, venesection, leeching, and blistering does not form a satisfactory counterpart to our mastery over the diagnostic facts of the case. Indeed, we have seen intra-pericardial effusions which seemed to increase in proportion to the activity of the local depletion and mercurialization. There is, in fact, very much to be learned yet upon this head, and any pretence to a rational system of therapeutics, in respect of the cardiac complications of rheumatism, is an immense fallacy.

The chapters on Rheumatic Gout and Chronic Rheumatism are deserving of attention and display a thoroughly practical acquaintance with the disease in question. We cannot afford space for the discussion of numerous points we would fain dwell upon, and must therefore refer our readers to Dr. Fuller's work, which will bring them well up to the present state of medical theory and practice *quoad* Rheumatism, Rheumatic Gout, and Sciatica. The book is, moreover, very readable, an excellence which is by no means as frequently a property of medical writing as we could desire.

The Physiological Anatomy, and Physiology of Man. By ROBERT BENTLEY TODD, M.D., F.R.S., Physician to King's College Hospital; and WILLIAM BOWMAN, F.R.S., Surgeon to King's College Hospital. Part the Fourth. Section II. London, 1856. London: J. W. Parker & Son.

THIRTEEN years have elapsed since the first portion of the work now just completed was given to the public. We doubt not, the appearance of this, the last part, will be most heartily welcomed. Of the value of the treatise we need scarcely speak; it is established as one of our most important text-books and has fully answered its authors' intentions of giving "such a view of the main facts and doctrines of anatomy and physiology, particularly of those bearing on practical medicine and surgery, as might suffice for the wants of the student and practitioner." Following that great master, Haller, the authors have given to anatomy far more prominence than is usually allotted to it in physiologic treatises, they being convinced "that a thorough training in its several branches, descriptive, physiological, and comparative, is necessary to the formation of those habits of mind which best fit their possessor for the successful investigation and the correct appreciation of physiological science." In the section now before us, the subject of *Respiration* is concluded, after which the topic of "Animal Heat," "Voice," "Secretion," "Secreting Glands," "Ductless Glands," "Generation," "Development," and "Lactation," are discussed in detail. The illustrations are full, and many of the cuts are extremely well executed, some of those appertaining to Chapter XXXIII. being taken apparently from the photographic representations lately published by Dr. Beale in his recent monograph upon the liver.

On the Nature and Treatment of Club-foot, and analogous Distortions, involving the Tibio-tarsal Articulation. By BERNARD E. BRODHURST, Assistant Surgeon to the Royal Orthopœdic Hospital, &c. London: Churchill. 1856.

THE author commences with a succinct historical *resumé* of the origin of orthopœdy and tenotomy, and endeavours most impartially to give to each of his predecessors his full merit for discovery or improvement. Amongst the works referred to, however, we find an omission of the name of William Adams, although his labours are frequently referred to throughout the body of the work.

In relation to the discovery of subcutaneous tenotomy, the author relates the steps by which it has been brought to its present state of perfection. He shows the great merit of Delpech in laying down as a principle, that the tendon "to be divided should not be exposed; its section should be made by entering the knife at a distance from the tendon, and not through an incision in the skin parallel to it." The above are Delpech's words. Delpech, in dividing the tendo-Achilles, carried out this important principle in the following manner, as we learn from Mr. Brodhurst's book:—

> "The patient being laid on his face, the knife was passed from side to side in front of the tendon, so as to divide the skin on both sides to the extent of one inch parallel to the tendon. The knife was then exchanged for a convex bistoury, with which the tendon was divided transversely from before backwards, without injury to the covering skin. *Having satisfied myself* that the foot could now be flexed on the leg, I proceeded to fix the limb in the apparatus at the same angle at which it was held before the operation."—p. 14.

The result of Delpech's having divided the tendon with two large wounds,—namely, each one inch in length,—and of having satisfied himself that the foot could be flexed on the leg—which, explained, means that whilst the wound was yet fresh he employed probably moderate pressure only, to bend the foot, and thus further exposed the cellular and other tissues on the back of the leg,—was, that considerable suppuration with exfoliation of tendon ensued, and three weeks after the operation only one of the wounds had healed. Some weeks later, after the form of the foot was restored and a useful member was obtained, abscesses on the thigh and groin further embarrassed the credit of tenotomy. In truth, the patient's limb had been jeopardised. A storm of censure from Delpech's contemporaries arose; and although he practised orthopœdy fourteen years afterwards, he never ventured to repeat the operation. Tenotomy is known to have been practised by Thilenius in 1784, Sartorius in 1806, Michaelis in 1809, Delpech in 1816. These dates show that individual surgeons were acquiring increased confidence in surgical means of curing deformities; but the unfavourable course of Delpech's operation evidently discouraged the profession; for it was not until 1830–31 that Stromeyer gave his penetrating mind to the discovery of the reasons of ill-success in Delpech's operation.

Compare, now, the account given by our author of Stromeyer's first operation:—The patient being seated,

> "I passed (says Stromeyer) a small, curved, pointed knife behind the tendon, two inches above its insertion, the back of the knife being towards the tibia, and its cutting edge so close to the tendon that it was divided, in introducing the knife, with a cracking noise. *My intention of making the outer wound as small as possible, to prevent the entrance of air, and to avoid suppuration and exfoliation of the tendon,* was perfectly accomplished; for the point of the knife only passed to the opposite side, without producing a bleeding wound; and the point of entrance of the knife was only as broad as the blade itself. . . . On the third day the wounds had healed."—p. 18.

This was indeed the discovery of subcutaneous division of tendons, an operation which, in relation to the treatment of deformities and its wide application to other surgical cases, has immortalised Stromeyer.

We do not remember having read a description of the varieties of club-foot in which the degrees of varus are so nicely discriminated as by our author; for example:

> "The third degree of varus is the ordinary form of congenital varus; the foot is inverted, and the inner edge is so raised that the plantar surface describes a right angle, or nearly right angle, with the horizon; the dorsum presents outwards, and the heel is elevated; the sole of the foot is shortened, and presents an unnaturally concave and irregular surface. The first phalanx of the great toe is extended by the extensor proprius pollicis, which is slightly retracted, and the extensor muscles of the foot are more retracted than in the second degree of varus."—p. 28.

Mr. Brodhurst believes rightly, we think, that the psychological influences in the mother explain the origin of congenital club-foot. He says:

> "I have known so many instances in which emotion has been the cause of derangement in the system of the fœtus, and cause and effect been recognised and acknowledged in some at the time of their occurrence, and without waiting for demonstration of the effect until the termination of gestation, that I cannot doubt its influence."—p. 53.

The following facts are interesting and significant:—

> "Children who are born with these distortions, are frequently subject to convulsive disorders; and the recurrence of distortion after its entire removal, whether by operation or mechanical treatment, indicates the persistance of nervous irritation. There is an inclination to the recurrence of distortion after restoration of the limb in every instance of congenital distortion. Occasionally, it returns suddenly at the moment of an epileptic seizure, or on the child being convulsed."—p. 57.

We cannot say that we have often observed children affected with ordinary club-foot become the subjects of convulsions; but we have noticed that infants born with complicated and numerous distortions generally die in convulsions, or other symptoms of cerebro-spinal disease. The author rightly points attention to the liability of recurrence of congenital deformity—we would have added, in all deformities, whether congenital or acquired.

Mr. Brodhurst gives also an encouraging view of spasmodic non-congenital deformities, and relates an interesting observation of the effect of the sleeping state in removing contractions, which will remind the physician of the same phenomenon in severe rhythmical chorea. (p. 77.)

The directions for operations are clear and sensible, and worthy of careful persual.

Parents may less grieve over the birth of a child affected with varus when it is known that in "infants, removal of distortions is so complete that it is sometimes impossible to assert with precision which foot has been operated on, without searching for the minute cicatrices of the punctures; and not only is the shape of the foot restored, but perfect freedom of use is also gained."

We must now bring this notice to a close, not without stating that the thinking practitioner will find in Mr. Brodhurst's book many original observations which will well repay perusal, numerous statistical tables, interesting to the pathologist not less than to the practising surgeon, and many suggestions relative to the nature and treatment of congenital and non-congenital distortions which no practitioner should neglect to consult. We cordially congratulate the author on the successful achievement of an arduous labour, and the art of orthopœdy on the addition to its literature of so honourable a production. The work throughout is embellished with a large number of well-executed drawings.

The Treatment of Cancerous Diseases by Caustics. By Langston Parker, Surgeon to the Queen's Hospital, Birmingham. Pamphlet. London: Churchhill. Birmingham and Manchester: Cornish.

This is the address in Surgery which was read before the British Medical and Surgical Association at their late annual meeting at Birmingham. After enumerating the three modes practised by surgeons for the cure of cancer—ablation or excision, compression, and the destruction or enucleation of the disease by escharotics or caustics, and briefly canvassing the question of the local or constitutional origin of cancerous growths, Mr. Parker remarks that the chief caustics which have been used in the treatment of cancer are arsenical pastes, chloride of zinc (Canquoin's) pastes, the concentrated mineral acids, the potassa cum calce in a solid form (Filhos' caustic), and the chloride of bromine, either alone or in combination with the chloride of zinc, antimony, or gold. There are others, but the author considers that all which can be accomplished by caustics may be attained by means of one of the preparations already mentioned.

Mr. Parker states that in several cases he has used the chloride of zinc paste with a gratifying amount of success, and that it may be made to act with a degree of precision unattainable by any other remedy, as it destroys the tissues in direct relation to the thickness of the layer of paste applied. The chief objections against its use are the necessity of first destroying the epidermis, and the pain occasioned by the application; the latter may, however, as the author asserts, be greatly diminished, if not entirely removed, by the application of ice and salt, on the plan recommended by Dr. James Arnott. The practical direction given is, that the integument surrounding the diseased surface should be protected from the action of the caustic by being covered with strips of cloth spread with a pomade composed of four parts of chloroform, and thirty of lard or cold cream.

The author lays it down that where the cancer is circumscribed and movable, or in the immediate vicinity of large bloodvessels, its removal by excision is to be preferred; but that on the other hand where a great extent of surface is destroyed, and the patient is sinking from profuse discharges, caustics are generally preferable. Also that these are eminently useful in secondary cancerous formations. An advantage which attends the treatment of cancer by caustics is that suppuration is more prolonged than after excision, and this process Mr. Parker considers to have a decided salutary effect. Caustics are, in his opinion, especially indicated in the treatment of cancroid or epithelial cancer of the lips, face, tongue, and some parts of the skin.

With respect to arsenical caustics, alarming and occasionally fatal effects have sometimes attended their use. To cancerous diseases of the lip the arsenical pastes are scarcely applicable for any continued period, since it is hardly possible to prevent a portion of the paste getting mixed with the saliva, and swallowed. M. Manec, who repeatedly used these caustics, directs that the arsenical paste should not be applied to a surface of greater extent than that of a florin. Mr. Parker admits that they are incontestably valuable remedies in the cure of cancroid diseases; and on the whole (p. 39), he considers that the caustics on which most reliance is to be placed in the treatment of cancer are the arsenical pastes, and the chloride of zinc.

Disorders of the Blood. By Julius Vogel, M.D., Professor of Clinical Medicine in the University of Giessen. Translated and Edited by Chunder Coomar Dey, Graduate of the Medical College of Bengal. Calcutta, 1856. pp. 219.

This is a very satisfactory translation of the article, "Störungen der Blutmischung," constituting the fourth section of the first volume of the valuable "Handbook of Special Pathology and Therapeia," edited by Virchow, and now in course of publication in Germany. It is most creditable to the Bengal College, and to Dr. Dey in particular, that an Indian presidency should be the first to present the English reader with a translation of the valuable monograph of Vogel, which "contains a comprehensive, lucid, and accurate exposition of the blood disease, and affords a clear and definite idea of the present state of our knowledge regarding them."

The Medical Profession in Ancient Times. An Anniversary Discourse delivered before the New York Academy of Medicine, November 7th, 1855. By John Watson, M.D., Surgeon to the New York Hospital. Published by order of the Academy. New York, 1856. pp. 222.

This "Discourse," though rather a long one, truly, is yet short compared with the extensive subject with which it deals. It is, on the whole, an able production, containing the "pith and marrow" of a host of writers, too formidable in number for us to refer to, and too recondite for the mass of the profession to trouble themselves much about. It is a "Discourse," too, the profession should be proud of, as evidence that we are yet a *learned* one; and the New York Academy may feel justified in laying it before the world as proof that one at least of its own fellows has been both competent and willing to answer to the noble teaching of Cicero (De Oratore), "Licet enim omnibus, licet enim mihi, dignitatem medicæ artis tueri," and thus to support the honour of the healing art.

New Inventions
IN AID OF THE
PRACTICE OF MEDICINE AND SURGERY.

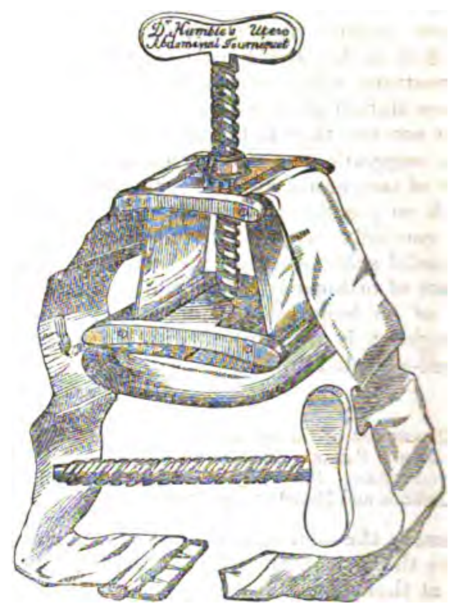
BANDAGE FOR UTERINE HÆMORRHAGE.

BY W. E. HUMBLE, M.D.

Dr. Humble says, in a communication to us:—

"I desire to call the attention of the profession to what appears to me an important addition to our stock of midwifery instruments. Without entering into the history of uterine hæmorrhage, I may observe that every accoucheur knows well that, in a large proportion of cases, post-partum hæmorrhage is best controlled by firm, well-adapted pressure over the uterus and lower part of the abdomen. For several reasons, the hand of the accoucheur would be best adapted to make this pressure, were it not that pressure by this means cannot be long sustained. Various contrivances have been devised from time to time to meet the difficulty, all more or less adapted to the object in view; but those which are best calculated to meet the requirements of the case are either so complex or so bulky as to prevent their general adoption. Hence, in practice, the accoucheur relies upon such extemporaneous aids as he can obtain at the time of the occurrence of hæmorrhage, by tearing up sheets or tablecloths for the purpose of bandages, using napkins for pads, and such other imperfect contrivances as suggest themselves to his mind at the moment, and the result is that he loses much valuable time in the general confusion which attends the occurrence of flooding, if, indeed, he be able to obtain at all the assistance he requires. On this account, I have for many years been in the habit of taking with me a firm bandage, furnished at one end with a strong steel buckle, by which, without difficulty or loss of time, I could make firm pressure over the region of the uterus. But I have recently made an improvement upon this simple bandage or belt, by the aid of which the accoucheur is able to avail himself with the greatest facility of every advantage which the best-adapted pressure is able to afford.

"My instrument consists essentially of an ordinary tourniquet as used for amputations, but enlarged and made of proportionate strength. The bandage or belt is about a yard and a half in length, and about three inches in width, and made of firm woollen texture, such as is used for saddle-girths. For the sake of portability, the screw of the tourniquet is capable of being detached and put separately into the pocket, so that the instrument is even more portable than a pair of forceps; the tourniquet platforms and belt being put into one pocket, and the screw into the other; or, if desired, they may be placed in a small case for the purpose.



"The following is the mode of using the instrument:—The labour having been *completed*, the accoucheur discovers that hæmorrhage has been going on, and that firm pressure is required to control it. He immediately applies the belt round the pelvis, and buckles it tightly with the pad and tourniquet over the region of the uterus. Probably this may suffice, but if he finds that the pressure exerted is not sufficient, he turns the screw, and tightens the instrument to any extent he may desire. All this is done almost as readily and easily as it can be described; and during the time that would have been occupied in getting his bandages prepared, his napkins folded, and other arrangements made (besides the difficulty of applying bandages under the circumstances), he has placed his patient in a state of safety, without the slightest trouble or causing the least confusion. Should the severity of the case require the use of the plug also, a ribbon attached to the instrument in front, carried between the thighs, and pinned to the belt behind, will suffice admirably to retain the plug. It is well to remark that, to prevent the abdomen being pinched, and to adapt the pressure better, the belt should encircle the body from the *upper* platform of the instrument.

"The instrument, which I call 'Utero-Abdominal Tourniquet,' has been made, under my directions, by Mr. Bigg, of St. Thomas's-street. I feel that I can state confidently that it is as necessary and useful in post-partum hæmorrhage as the ordinary tourniquet in amputations."

GOODYEAR'S VULCANITE COURT, CRYSTAL PALACE.

WHILE it is our peculiar province to remark chiefly on the valuable aids which the manufacturer of vulcanized india-rubber has afforded to the medical practitioner, we cannot but be astonished at the "thousand and one" uses to which it is applied in the arts and manufactures, and the various purposes in social and domestic economy. Until recently we have found that only toys or toy-like articles have been attempted, but now there is required only a more abundant supply, which, in obedience to a grand commercial law, always follows the demand, to produce every variety of furniture, &c. Even the coach-builder may almost entirely avoid the use of any other material. But we are at present familiar with it only in the shape of articles of dress and the smaller articles of use, such as drinking-cups, picture-frames, inkstands, and the like. We see it enclosing the telegraph-wires along our railroads and in the telegraph cable which conveys the speaking lightning round the world. Since man first turned the metals to his use, nothing has had so wide a range of application; many things for which no other than metallic material could be found are now formed of this wonderful gum.

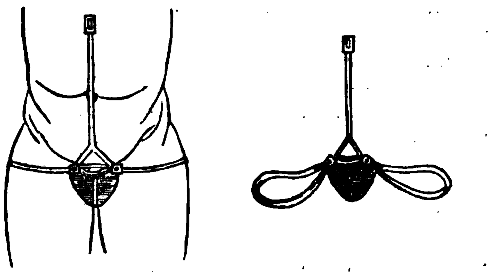
Amongst the medical appliances, the most useful are bandages, especially of the perforated knitted goods; these possess great strength, with elasticity and lightness, and have not the excessive warmth which is, in some cases, so objectionable in the plain elastic bandage. In the hospital air-beds, the cylinders are a great improvement. To the water beds is attached a most convenient method of warming. The bed-pans, with elastic cushioned rims, will strongly recommend themselves to patients. The student in the dissecting-room will also find great advantage from the use of the dissecting-gloves and aprons. Abdominal supporters, elastic stockings, and poultice socks, are among the other elastic articles manufactured.

The vulcanized material is admirably worked into various useful surgical and medical instruments. Stethoscopes and syringes are amongst the most important, the latter being of most beautiful workmanship and appearance. The caustic cases are excellently adapted for the purpose, the nitrate of silver not acting upon the material. The Vulcanite Court is well worthy of a visit from the medical practitioner and student.

SEXTON'S ANTI-CORROSIVE CAUSTIC HOLDER

Is formed of vulcanized material, and is very neat and useful. The holder is not acted upon by the caustic, which, by a simple contrivance, can be regulated to any length, and used even to the smallest remaining portion.

WE have, on various occasions, made known to the profession, the valuable improvements which Mr. Bourjeaurd has introduced in elastic appliances; and we may say that surgeons have frequently had to congratulate themselves on the facility with which they have been enabled, with his aid, to give relief in many desperate cases. Hernia, ovarian and other dropsies, œdematous or varicose legs, prolapsus uteri and ani, have all in turns been considerably benefited by the exact and systematic manner in which the new elastic bandages are adjusted and graduated, according to the peculiarities of each individual morbid state.



Indeed, it would appear that the profession, on the other side of the Channel, are fully alive to the advantages to be obtained by Mr. Bourjeaurd's system; for we find that M. Guérin has presented a report to the Surgical Society of Paris, wherein he very lucidly shows how far superior these elastic bandages and air-pads are to steel trusses. In the number of the *Gazette des Hôpitaux* of the 16th of October, 1856, there is an article of Dr. Petit's in which the ingenious contrivances introduced by Mr. Bourjeaurd, as regards hernia, are set forth with much earnestness; and we have this day to draw attention, among the useful appliances above-mentioned, to a kind of bandage which, when well adjusted, gives considerable relief, and does much harm when imperfectly constructed. We allude to the apparatus which is generally called Suspensory Bandage, but which should really be termed *scrotal supporter*.

The great point, as the simple rules of surgery teach us, is to take off the weight from the cord, either in inflammation, chronic disease, or varicocele. But this must be accomplished without compressing the testicle, either directly, or as a consequence of any violent exertion.

These desiderata are most completely fulfilled by this Suspensory Bandage, which latter cannot be made too extensively known, and without which no one suffering or being threatened with orchitis should remain. Mr. Bourjeaurd makes the bag of knitted india-rubber, expressly for each individual case; and the elastic bandages, which run round the thighs, are of that class of elasticity which stretches to double its length. A very clever addition, is an elastic strap which runs from the anterior part of the bag straight upwards, and is intended to be fastened to the patient's flannel or other waistcoat. The testicles are thus held up, but in such a manner that the means of support are nowhere felt; and nevertheless so well adjusted that not the slightest pain or uneasiness can be experienced.

This Suspensory Bandage, of which we entertain so favourable an opinion, has been used for several years in the naval hospitals, by order of the Director-General; and we have been shown reports from naval surgeons to the Director, in which the bandage is spoken of in the warmest terms. One unvarying pattern for suspensory bandages, one kind of elastic straps, without proper regard for the peculiar sort of morbid state to be combated, are circumstances which will ever stand in the way of success; but the nicety with which both bags and straps are adjusted and regulated by Mr. Bourjeaurd, renders them an indispensable assistance in many diseases and ailments of the testicle, which come to the cognizance of the surgeon.

Foreign Department.

Pathological Anatomy of Cholera.

M. Pirogoff, the well-known Russian surgeon, published some time ago a beautiful atlas, illustrating the morbid changes he has found in more than 150 autopsies of cholera cases, made in 1847, '48, and '49, in the Caucasus, at Moscow, Dorpat, and chiefly at St. Petersburg. This atlas has been for some time before the medical world, and M. Soulier very properly calls attention to this magnificent work in the *Gazette Médicale de Paris* (Sept. 27th, 1856). M. Pirogoff has fulfilled the herculean task in a worthy manner, and we doubt not but the investigations of many medical men of this country will be greatly aided by the beautiful plates and letter-press. In the latter it is stated that the author divides the disease into two genera: the Simple Cholera, and the Complicated Cholera. The first genus is subdivided into five species:—

1st Species.—This is characterized by the state of the villosities of the intestinal mucous membrane, and is the most ordinary form of choleraic morbid change.

2nd Species.—Alteration of Brunner's and Peyer's glands.

3rd Species.—Specific morbid change, partaking of catarrhal and pseudo-membranous characters.

4th Species.—Peculiar affection of the mucous membrane of the large intestine, remarkable on account of its rapid development, its locality, and the destruction of the substance which it attacks.

5th Species.—This is the diphtheritic form, and extremely rare.

The Complicated Cholera has been divided by the author into six species:—

1st. The cholero-dysenteric action; very acute, and seated in the ilium.

2nd. The dysentero-choleraic action,—namely, the cholera grafted upon dysentery.

3rd. The cholero-typhoid action, presenting the alterations peculiar both to typhoid fever and to cholera.

4th. The typho-choleraic action,—namely, the cholera attacking a patient suffering from typhoid fever.

5th. The catarrho-choleraic action: the cholera combined with a catarrhal state of the intestine.

6th. Finally, the cholera accompanying the inflammation of various organs.

Can the Secretion of the Grease or Sore Heels of the Horse be Inoculated to Man?

Jenner thought that the pock affecting the teats of cows was the result of inoculation from persons who, previous to milking them, had been in contact with horses suffering from the grease. Attempts to inoculate the latter affection to man failed; but the same poison (as it was supposed) taken from the contaminated cows showed, in the shape of vaccine matter (as is well known), a peculiar fitness to be implanted upon the human organism. The grease was thus considered as primarily non-transmissible to man, though examples of such transmission, and consequent development of vaccine pustules, had from time to time been recorded: one by Sasko, a second by M. Letenneur, and a third, quite lately, by M. Rigodin.

The question seems now to have been *almost* solved by Messrs. Manoury and Pichot, of Chartres, in France. As in the case before alluded to, it is a shoeing smith who took the disease from a horse affected with grease. He applied to M. Pichot, who took the lymph from the pustules (bearing the closest resemblance to the sores resulting from the inoculation of vaccine matter), and sent some of it to M. Manoury, of Chartres, and to the Academy of Medicine of Paris. M. Manoury succeeded in propagating the lymph to some children, inoculating successively from the pustules obtained. At the Academy, the lymph taken from the smith failed, but that subsequently sent by M. Manoury, and obtained from the second transmission upon the children inoculated by him, succeeded perfectly; and thirteen pustules distributed amongst three children, all gave characteristic vaccine pustules. These experiments are certainly not entirely conclusive, but the facts connected with them should not be overlooked, as they may lead to further investigations, which possibly may throw some light on this obscure question.

M. Geoffroy St. Hilaire on Horseflesh.

This distinguished naturalist has just published a book on the "Alimentary Properties of Horseflesh," and stated, at a late meeting of the Academy of Sciences of Paris, on presenting the work, that it was a great mistake to exclude horseflesh from the usual food of man, as he considers it extremely wholesome and likely to be of much benefit to the people at large.

The author shows, in this book, that horseflesh is used by various nations, differing considerably as to race and mode of life, and that it is very wholesome both in health and disease. The wild horse is hunted, and its flesh used in all countries where it exists; and the domestic horse is used in the same manner, in Africa, America, and Australia, over almost the whole of Asia, and in different parts of Europe. Horseflesh, either served out to troops or bought by the working classes in towns, has often been *mistaken* for beef, and it is eaten as *buck*, with great relish, in several first-rate restaurants in Paris. When the animals have had sufficient rest, the roasted joints are excellent; and the soups made with horseflesh are very superior, though the meat used for them is inferior to beef which has undergone the same process as all the goodness runs into the soup.

In the latter portion of his work, M. Geoffroy St. Hilaire proves, by statistical tables, that horseflesh may be found in great plenty, and might afford excellent means of sustenance for the labouring classes both in town and country.

Infecundity of Man or Animals when the Testicles remain in the Abdomen (Cryptorchidii).

MESSRS. GOUBAUX and FOLLIN, have lately published a series of papers in the *Gazette Médicale de Paris*, in which they study the above question with much power and lucidity. The first portions of the papers are devoted to the etiology and anatomy of the cryptorchidious state; the latter portions with its physiology. Reasoning, experiments, microscopic examinations, and quotations *pro* and *con*, are largely used (it is well known that Mr. Owen does not share Hunter's opinion respecting the inefficiency of testicles which remain in the abdomen), and the authors are finally led to the following opinions:—

The microscope fails to discover spermatozoa in the seminal fluid secreted by testicles which do not leave the abdomen, either in man or animals.

Cases and experiments prove that animals with whom both testicles are retained in the abdomen are incapable of fecundating.

Iodoform as a Therapeutical Agent.

IODOFORM, discovered by Serullas, has been shown by Dumas to be composed of three atoms of iodine, two of carbon, and one of hydrogen. M. Bouchardat has given, in his Manual of Materia Medica, a ready mode of preparation, and it is expected that iodoform, from its agreeable taste and non-irritative action, will render great services where iodine is indicated. M. Rhigini, of Oleggio (Italy), has made some experiments, to ascertain whether iodiform possessed any anæsthetic properties. He found that it had some narcotic powers but considerably inferior to chloroform or ether. M. Bouchardat has therefore given the following formula for an ointment to be used in cases of painful cancer: cerate, eight parts; iodoform, one part; laudanum, one part. Thirty grains of iodoform made into thirty-six pills with extract of wormwood, will afford an agreeable way of administering the remedy. Dose, three a day, increased to six or eight, in cases of glandular swellings and other scrofulous affections. M. Bouchardat advises the following proportions for the preparation of iodoform: iodine, 100 parts; bicarbonate of potash, 100; water, 750; alcohol, 250; mix the whole in a strong bottle, and place it in a water-bath, the temperature of which is to be gradually raised, to favour reaction. When the liquor becomes transparent, add twenty-five parts of iodine, heat again, and go on adding iodine as long as the fluid loses its colour. When the liquid shall no longer change with heat add a few drops of a solution of caustic potash or soda, to remove the colouring of the fluid. Filter, and wash the precipitate, which will consist of crystalline plates of iodoform, of a beautiful citrine colour. The mother liquor will, on evaporation, yield crystals of iodide of potassium or sodium. The reactions during the process are the same as those which take place in the preparation of chloroform.

Chloride of Zinc Paste in Uterine Polypus.

M. REYBARD, of Lyons, has published, in the *Gazette Médicale de Lyon*, a case of fibrous polypus, the casting off of which he procured by thrusting little cylinders of chloride of zinc paste into the pedicle previously perforated by a trocar. The tumour, which was large and implanted high in the cavity, was removed by gentle traction twelve days after the operation. The patient suffered very little pain. M. Reybard thinks this operation preferable to excision or the ligature: the first being, according to him, liable to fatal hæmorrhage; the second being often followed by severe pain and inflammation. Many objections might be offered to the use of the caustic; and considering the slight pain which generally accompanies the ligature, it is likely that surgeons will pause before they adopt the former in preference to the latter operation. We thought it, however right to give publicity to M. Reybard's success.

Anal Fissure Cured by Applications of Chloroform.

M. CHAPELLE of Angoulême, France, lately submitted to the Academy of Medicine of Paris his mode of treating this affection. Instead of the usual division, he applies, with a camel-hair pencil, a fluid composed of three drachms of chloroform to one of alcohol. The smarting is sharp but not lasting. The author was led to try chloroform under the belief that fissure was an affection of a neuralgic kind (!), and adduces fourteen cases, in which four were cured after one application; six cases required two; it had to be repeated three times in three of the cases, and four times in one of them. It will remain doubtful with some surgeons whether the diagnosis was perfectly correct in all these cases.

Electro-puncture in a Case of Supposed Extra-uterine Fœtation.

L'Union Médicale gives an account of a case of this abnormal course of conception, treated by Dr. Bachetti, of Pisa. The patient was twenty-nine years of age, had had several children before, and presented, in the third month of pregnancy, a tumour in the left iliac fossa, which was looked upon by Dr. Bachetti and Drs. Burci, Torri, and Bartolini, who were called in consultation, as the result of a tubal extra-uterine fœtation. It was first attempted to arrest the development of the fœtus and prevent the fatal hæmorrhage which generally takes place after the third month, by frictions of mercury and hemlock; but recourse was finally had to electro-puncture with the view of destroying the fœtus, and this was accomplished by the implantation of two needles into the tumour, and directing into the latter an electro-magnetic current. Some pain was experienced by the patient, and it was surmised that the development of the fœtus was arrested. Nor were the physicians disappointed in this respect, as the tumour rapidly diminished, and was reduced to the size of a pigeon's egg, after having been as large as a man's fist. The catamenia, which had not appeared for three months, returned, and the patient is doing well. It may of course be asked whether the diagnosis was quite correct and whether the tumour might not have been simply an ovarian one. The operation itself, and the results are nevertheless facts of great value, and may open a new field of inquiry to those who have to cope with abdominal tumours in females.

Medical Annotations.

"Ne quid nimis."

If it be accepted as a duty that "those who think must govern those who toil," a heavy responsibility rests on those through whose want of thought and judgment occurred the late terrible coal-pit accident at Barnsley—which, at one fell swoop, destroyed a hundred and eighty-six lives. The origin of the accident is attributed to working by the light of naked candles. This had been previously done with impunity; and at this moment there are probably hundreds of men toiling underground with their lives in constant jeopardy from a similar cause. The fault lies in the Legislature, which neglects to enforce the most stringent punishments on any whose negligence or culpable fool-hardiness may thus in a moment doom hundreds to destruction. We daily witness the same neglect, the same carelessness, endangering the lives or destroying the health of the workers in various trades. The results are only less startling because less sudden and concentrated.

At a meeting recently held in Exeter Hall, eloquent speakers described how

> "The sempstress, lean and weary and wan,
> With only the ghosts of garments on,"

is compelled to toil, "from weary chime to chime," in ill-ventilated work-rooms, and for a time that overtaxes her strength, and surely undermines her health. Demand—in white satin robes—is allowed to slave away the life of Supply, in needle-and-thread-bare garments. The result is too well known. The poor work-women droop and creep away to die one by one; the process being not less sure because it is more slow than the flash of flame from the pit's mouth, which hurtles away the life's breath of near two hundred men.

The same improvidence of human life and health is evident in many trades. A watch-gilder—recently required to sign a deposition before a London magistrate—could scarcely write owing to the paralysis produced by the influence of the mercurial fumes generated during his work; the noxious influence of which might have been obviated by proper care and ventilation. In answer to a question from the magistrate, he stated that it was a usual result of his trade. Again: the house-surgeon of the Hereford Infirmary reports, that in that Bœotian district boys under fourteen years of age are commonly employed to feed and tend the dangerous machines used for chaff-cutting. Hence severe and frightful accidents are of common occurrence, rendering these poor children maimed for life, and dependent on charity, or inmates of workhouses. He mentions having "a regiment of such maimed lads" under his care.

At first view it appears that diffuse and elaborate measures would be required in order to remedy all these evils. This is not the case. There is one narrow basis that would afford all the support required for legislation on this difficult and important subject; which would equally apply to the defence of the miner against the carelessness of his fellows, to the protection of the poor sempstress against her exacting task-mistress, and of the headless workman in noxious trades against his own imprudence. This foundation is the conservation of health and the preservation of human life. We sadly want an Act of Parliament for the better protection of the lives of our working bees.

There exist in various parts of London a number of collections, probably the most complete in the world, of materials to assist the researches of those whose scientific pursuits lead them to think that "the proper study of mankind is man." It is fully time that these various ethnological museums should be concentrated into one collection, instead of being scattered throughout London, open at different hours, and arranged without uniformity. The ethnological rooms at the British Museum are full to overflowing. At the Asiatic Society, in the United Service and Missionary Museums, at the East India House, and elsewhere, there are collections of which the scientific value would be greatly enhanced, and the objects for which they have been gathered more thoroughly fulfilled, by their concentration and careful arrangement in one building. The anatomical and physiological opportunities afforded by such a museum would be particularly valuable to members of the profession.

THE Edinburgh College of Physicans has announced an intention of giving a prize of twenty-five guineas for the best essay on the Mineral Springs of Scotland, with special reference to their chemistry, climate, geology, topography, facility of access, and uses. The competition is to be open to graduates of the Edinburgh University and Colleges whose diplomas do not date earlier than 1855. The essays are to be sent in before the end of 1858. If scientific and accurate information, so much required on this subject, be the object of the College, it is a narrow and selfish policy to thus restrict the competition. If they merely purposed offering a bonus to the students of Edinburgh, the sum to be awarded for the best essay on a subject entailing such laborious research is simply contemptible.

LONDON's new Lord Mayor, instead of wasting turtle on plethoric aldermen, or gorging ministers with great civic feasts, as though they were merely ministers of the interior, has displayed a most praiseworthy personal interest in the condition of the poor in the wealthiest city in the world. He has himself inspected, at considerable trouble, the different workhouses, and taken pains to ascertain the actual amount of comfort enjoyed by the paupers, and the inducements held out to them to accept parochial aid rather than steal to gain their bread. When recently presiding at the general meeting of a Dispensary, his Lordship appropriately availed himself of the occasion to refer to the condition of the poor. He lamented the too general tendency of so-called philanthropists to give their exclusive attention to the criminal and his reformation, whilst the (as yet innocent) poor are starving into the commission of crime. We are glad to find that so practical an observer and so powerful an advocate has taken the part of the poor, and expressed his decided aversion to any over-tender sympathy for those who have already, as Carlyle says, "listed in the devil's regiment of the line," whilst the honest poor are left to struggle alone with want and temptation. We say "alone" advisedly; for under the present system of out-door relief, as witnessed by the Lord Mayor, it is better and less troublesome for the poor man to lie down in the street than subject himself to the tender mercies of the relieving officer; the disgrace and punishment attending the commission of crime being, *de facto*, less than that undergone merely to obtain the grudgingly-doled charities of the workhouse, and a night's lodging on the flagstones of an old stable.

"AN ENGLISH LADY" has recently written an eloquent letter to *The Times* directing attention to the sad lot of that unfortunate class of women whose only place of refuge in disease and destitution is the "foul" ward of the union; whose only mode of subsistence when they leave the house is by reverting to sin. The evil is one of those which can only be remedied by boldly searching out its cause; and this, we have reason to fear, lies far deeper than has hitherto been suspected. What are the antecedents of these unfortunate women? Some light is thrown on this subject by an authenticated communication which has reached us respecting the destiny of female children brought up in workhouses, and thence drafted into the world. A union medical officer writes, "The master and matron of the workhouse I attend have repeatedly deplored the fate of children in my presence, because they frequently have young women brought up in the workhouse coming under their charge with venereal disease. ...... Girls under treatment in the venereal ward state they were brought up in workhouses. One said, eight out of every ten girls so brought up turn out badly."

If we consider how few are the employments for which women are considered eligible, and the impediments offered to their emigration under circumstances favourable to their retaining a position in the social scale, it can hardly be deemed surprising that the great moral evil pointed out by the "English Lady" should exist to so frightful an extent. Nor is there any likelihood of making head against it without the adoption of some energetic means that shall strike at the very root. Because the subject is a hateful one, it is the more necessary that it should be thoroughly investigated and some remedy promptly applied.

AT the annual meeting of the French Academy recently held, three of the prizes distributed were awarded to eminent countrymen of our own, distinguished in science, two of whom are members of the medical profession. The Cuvier prize was accorded to Professor Owen, for having, by his labours during twenty years, so greatly enlarged the field of comparative anatomy, and provided as it were, skeleton-keys to open the doors of palæontological knowledge. The astronomical prize was awarded to Mr. Pogson, of Oxford, for discovering the planet Isis. Rowland Hill said, anent his hymns, that "he did not see why the Devil should have all the best tunes." We are equally at a loss to know why the names of mythological personages (frequently of very indifferent character) should be bestowed on the little sidereal strangers whose nativities are so elaborately calculated by our astronomers. We venture to suggest, that there is one earthly name worthy to be bestowed on the next "bright particular star" that reveals itself to mortal ken. It may be left to the taste of the gallant astronomer whether he select the name of Florentia or Philomela as the title by which he would thus do grateful homage to the virtues of Florence Nightingale.

On of the Monthyon prizes of the Academy for discoveries in medicine and surgery was awarded to Professor Simpson, of Edinburgh, for his discovery and adaptation of the anæsthetic properties of chloroform. This is not the first foreign distinction conferred on Dr. Simpson. We trust the day may come when we shall no longer feel that the record of such rewards as these is a reproach to us; that this is the only country in Europe where the greatest benefactors of mankind have been, and still are, systematically neglected; whilst the highest honours are showered on representatives of the money bag interest, on generals of doubtful courage, and on politicians of more than doubtful wisdom.

It cannot be doubted that many great discoveries in our art have been lost because their inventors "died and made no sign." Seeing no certain prospect of reward that might induce them to carry out and complete the ideas working in their minds, or oppressed with

> "The common wants and common cares
> That sow the human heart with tares,"

how many have chosen rather to grasp a possessed certainty than confide in human gratitude to reward years of toil passed in elaborating their crude ideas. The French Academy of Medicine has lately made a step in the right direction by decreeing a grant of 3000 francs to found an annual prize for any discovery of means of cure in diseases hitherto deemed incurable; such as hydrophobia, cancer, epilepsy, typhus, cholera, &c.

The legend which ascribes to the eating of human flesh the origin of one of the most loathsome of diseases, scarce offers a more horrible picture to the imagination than is presented by a letter in the *Ceylon Examiner* of October. We have already alluded to the ravages made by cholera in India during the early part of this year. The latest accounts inform us that this scourge has also devastated the beautiful islands of Mauritius and Bourbon. These islands are largely supplied with pork from Patna, a province of Hindostan that has itself been overrun by the cholera. Both there and at Calcutta the bodies of the natives are consigned to the Ganges, instead of being interred. "Let any person," says the writer in the Ceylon paper, "at day break start from the gates of Government House, Calcutta; and whether his walk be to the banks of the river, or to the banks of the canals which on three sides surround the city, he will see pigs feeding on the dead bodies of the natives that have been thrown there during the night; during the day the river police clear away and sink all that remain of the bodies. Bad as is the metropolis of India, it is nothing compared to Patna. .... Hundreds upon hundreds of human corpses are there strewed along the strand; and fattening, Ghoul-like, upon these are droves upon droves of swine. These swine are slaughtered, cut up and salted into hams, bacon, and pickled pork, and then despatched to Calcutta. ..... The great market for this poisonous swine-produce is the Mauritius and Bourbon,"—where it is foisted on the inhabitants as the produce of Europe. Moreover, as these swine are sold in Calcutta at three or four shillings each carcase, it is stated that the inferior class of homeward-bound vessels are provisioned with them, and thus this human-fed pork is introduced into Europe and America. To the conclusion of the writer, that this is a probable cause of the spread of cholera, we do not assent. But we would call attention to the revolting scenes described by him; for it is in a British possession, and under the control of British rule, that these enormities are allowed to continue.

It is a great reproach to our much-vaunted English common-sense, that those who wish to thoroughly and practically attain a knowledge of anatomy, are often driven to Paris or other continental schools. In England, the expense of oft-repeated dissections deters many, and the impossibility of obtaining a sufficient supply of subjects hinders more, from ever gaining that deeply-ingrained knowledge of anatomy so essential to successful practice. The same "society" which expects us to devote the greater part of our lives, and the most valuable portions of our time, to gratuitous attendance on the sick, readily listens to and supports every ignorant prejudice which folly or affection can devise to deprive us of the means of obtaining that knowledge which forms the foundation of our art. The charlatan, ignoring anatomy and learning, has his filthy trash protected by a Government stamp. He may post his bills on the very walls of the temple of science, and use the "divine afflatus" for his puffs. He may blow his own trumpet, to delude those who, deceived by him, will hear nothing more till the last trump sounds, and he is fostered and protected; while a deaf ear is turned to every solicitation for additional means of acquiring correct knowledge and obtaining information for the benefit of the sick and the alleviation of disease. To such an absurd extent is this carried, that even criminals who die whilst expiating their ill deeds are carefully buried, as at Woolwich, in a graveyard of their own, and, after lives of wrong-doing, are not even allowed to benefit their fellow-creatures when they are dead.

Miscellaneous Correspondence.

DENTISTRY PRESENT AND FUTURE.

To the Editor of THE LANCET.

SIR,—It would appear that dentists of all denominations in London consider some course of education necessary to elevate dentistry from its present anomalous position. I assume this to be a fact for the following reasons—viz. that I have recently received circulars from two societies, professedly having this object in view.

The first Society that honoured me with a circular I declined being connected with, from the fear that qualified and unqualified gentlemen might not agree in council, and thereby frustrate the common object in view.

The second circular I received was from the Odontological Society. This Society, in their circular, give the names of their president and council, also a copy of their by-laws, regulations, &c. On perusal of this list of names, I felt if I were anxious for intercourse with the members of my profession, and the advancement of dentistry, I must of necessity accept the honour intended me, and join the Society. Having accepted the honour, I beg to say there is much that I admire and agree with in the rules of this Society; but as they are at present constructed, I must consider them those of a scientific and not those of a surgical Society, the last of which I consider they ought to be. The rule I consider wanting is the following:—That after a certain lapse of time (say two years) no gentlemen be considered eligible for membership except those who have qualified themselves as surgeons. I give the two years in order that vested interests may not be interfered with.

I suggest this rule through you paper, not with the view of coercing the learned council, but in order that my opinion (which I honestly believe to be correct) may obtain that weight and importance which publicity in your valuable journal can alone give it. If what I suggest as a rule be established as such, I have not the least doubt but that in time this Society will be recognised by the Colleges of Surgery and hospitals throughout the kingdom.

I remain, Sir, your very obedient servant,
SAMUEL MACLEAN, F.R.C.S.I.

Brook-street, Bond-street, Dec. 1856.

SPURIOUS SCABIES.

To the Editor of THE LANCET.

SIR,—Will you do me the favour to insert the following in an early number of your journal? It consists of a few remarks on a peculiar form of skin disease, occurring principally amongst children from seven to sixteen years of age, and which, from its bearing some similarity to scabies, I have designated "spurious scabies."

The general symptoms of the first-named disorder I understand to be a vesicular or pustular eruption, sometimes assuming a papular form, the eruption being preceded by itching, and this after its appearance being of a most distressing nature; the usual seat of this disease being between the fingers, on the wrists, and the bends of the joints, but occasionally affecting every part of the body, except the face; the primary cause being neglect of personal cleanliness, and, when once established, capable of being transmitted from one to another.

The latter, or "spurious scabies," generally appears in a papular form, passes from this to the vesicular, and may become pustular. There is no itching attendant on it or preceded by it, even in its most aggravated form; indeed there seems to be no pain or irritation whatever, or, if so, it is very slight, and nothing to be compared with the distressing itching of the true psora. The seat of the disease is generally between the fingers or in some part of the hand, or it may be on the fore-arm, but this is not so common; the papulæ are distinct, not clustered. The most usual, if not exclusive, exciting causes appear to be employment in the laundry (i.e., at the wash-tub), the scrubbing of floors, or continual handling of woollen dyed articles, as in sewing, &c.

These causes for the most part are certainly just the reverse of the primary origin of itch, which is assigned to personal uncleanliness. In the first occupation (i.e., at the wash-tub), uncleanliness about the hands at least is almost impossible; and in the second, the children are compelled to be scrupulously clean. It again differs from that loathsome disease by abating of itself, even when it seems bad, if the employment is desisted from and requires no other treatment, local or otherwise. If we require further evidence that it is the occupation that produces it, and that it is not contagious, it is supplied by the fact, that out of 700 children of both sexes, it affects the girls only (no case being ever seen amongst the boys), and those girls only are so affected who have been engaged in the way stated; these are always worse after they have been so employed, and it never spreads to any of the others, whilst it is also never known amongst the children under seven years old, who never do these kinds of work.

I have been induced to write to you on this subject, never having seen any mention of a similar disorder, and thinking it may be interesting or serviceable to some of your readers, as well as to save the unfortunate creatures on whom it shows itself from being treated for that most disgusting of all diseases (true scabies), which at first sight it so much resembles, but is only aggravated ten-fold by being treated for it.—I am, Sir, yours obediently.

ALFRED BANKS, M.R.C.S.L. & L.S.A.

Wenston House, April, 1857.

THE CLIMATE OF DARIEN.

To the Editor of THE LANCET.

SIR,—As much misconception prevails regarding the climate of Darien, which is generally supposed to be as unhealthy as that of the marshy country along the banks of the Chagres and San

Juan rivers, I beg leave to forward the following report, the insertion of which will much oblige

Your most obedient servant,
WILLIAM M'DERMOTT.

Warwick-terrace, Belgrave-road, Feb. 1857.

H. M.'s sloop *Espiègle*, Caledonia Bay, Isthmus of Darien,
10th April, 1854.

SIR,—In compliance with your request that I should forward you a statement of the climate of Caledonia bay, and that part of the Isthmus of Darien in its neighbourhood, which has been explored by parties from this ship, I beg leave to make the following report:—

During our stay in Caledonia bay, in January, February, and March, extending over a period of nearly three months, I had sufficient opportunities of observing the nature of the climate as well as the state of the health, of this ship's company. I had also constant intercourse and communication with the medical officers of the United States sloop of war *Cyane*, the French war steamer *Chimere*, and Her Majesty's surveying schooner *Scorpion*, which were anchored in Caledonia bay during the same period, and the crews of which amounted to four hundred and twenty individuals.

A party of twenty-six persons left the ship on the 24th January, with Mr. Gisbourne, and did not return for a period of eleven days, during which time they were exposed considerably in wading rivers, and occasionally to the sun, though generally protected by the shade of the foliage.

Dr. Edwards, assistant-surgeon, who was in medical charge of the party, states that the weather throughout was fine and generally dry, with the exception of few light morning and evening showers; average of thermometer, 76. Every precaution was taken for the preservation of health, and the party was protected at night by sleeping in well built huts of palm leaves. The usual doses of quinine wine were administered to each of the party daily. When the party returned to the ship, and for some time afterwards, I closely observed the state of their health, and in no case could I detect any symptoms of disease caused by their exposure; on the contrary, I think, they were improved in health by the change. A second party of twenty-one persons left the ship on the 24th March, and returned on the 2nd April, and although their duties were much more arduous, the exposure greater, having had to cut their way through the bush, no case of endemic or local disease resulted therefrom.

The ground being mountainous and devoid of marsh, the rivers being all running streams with rocky and sandy beds, having no alluvial deposit, I feel confident the causes of endemic fever do not exist,—at all events during the period of the year I have mentioned,—nor do I think even at any time of the year that the fever so fatal and injurious to health, which prevails at Greytown and Navy Bay, can exist. I made frequent inquiries amongst the natives, and I could not ascertain that any particular form of fever prevailed amongst them, and from their appearance, I should say they are a very healthy race. The temperature and climate of Caledonia are far superior to that of any part of the West Indies that I have visited. A cool and steady breeze from NNW., with scarcely any variation, prevailed during our stay there. The heat does not produce that feeling of oppression experienced in the West India islands, and the nights are delightfully cool.

Previous to the ships leaving, I made particular inquiries of all the medical officers, and found that no cases of disease occurred which could be attributed to climatorial cause.

About twenty sailors from the French war steamer *Chimere* were employed during the same period, and with the same result. The United States sloop *Cyane* had also a number of men employed surveying and digging wells, and no endemic disease occurred. From the nature of the duties of the crew of the *Scorpion* surveying schooner, the men had been constantly exposed from morning till night daily in the harbour, but not a single case of fever had occurred during a period of three months. From the time of our arrival in Caledonia bay, it was observed by Dr. Edwards and myself, that the men improved in health, and when we left, the ship's company was in better condition than when we arrived on the coast of Darien.

WILLIAM M'DERMOTT, M.D., Surgeon.

Commander George Hancock, R.N.,
H. M.'s sloop *Espiègle*, Caledonia Bay, Darien.

THE MODE OF RESUSCITATING NEW-BORN CHILDREN IN SCOTLAND.

To the Editor of THE LANCET.

SIR,—I beg to assure you that the newly promulgated method of Dr. Marshall Hall, as far as the resuscitation of new-born children is concerned, has been in practice from time immemorial in the Highlands of Scotland, where it is popularly called the "bringing alive again," and has been almost invariably successful in cases of newly-born asphyxiated children, from long-continued labour, mechanical delivery, or where the circulation has been impeded by straining of the funis umbilicus, or complicated presentations. It has not, however, been found to answer in cases in which death had taken place with the well-marked signs, from twenty to forty minutes before death.

As the mode of procedure is somewhat different to that submitted by Dr. Marshall Hall, and as it is likely to answer better, particularly in warm weather, having also long experience on its side, I will describe it.

As soon as the child is born, and before the funis is divided, if it is found to be asphyxiated, whisky is immediately dashed on the chest, sprinkled on the cheek, and rubbed on the sides of the neck up to the back of the ears; and until the first supply is dried up, it is sufficient to blow with the mouth from time to time, which is equal to more dashing. The finger is put into the mouth to remove foreign matters from the fauces; artificial respiration being kept up by raising and depressing the chest by lateral pressure; smart slaps are given to the nates occasionally, to stimulate the diaphragm. Sometimes it is found useful to allow a small quantity of blood to escape from the umbilicus. Whisky produces a greater amount of cold, and, by its evaporation, keeps it up longer than water; and, as must be obvious, is more stimulating to the extremities of the nerves, and more powerful in inducing reflex motor action, and so establishing a function so essential to life as respiration. Cold water is little better in most places in summer than warm water in winter; and there can be no doubt that those who give it a fair trial will find it an improvement.

I remain, Sir, yours, &c.,
K. Corbet, M.D., Surgeon.

Beauly, Mar. 1857.

SUGGESTIONS FOR DIMINISHING THE SMELL OF BILGE-WATER ON BOARD SHIP.

To the Editor of The Lancet.

Sir,—As I consider the suggestion which I am about to make of great importance in a sanitary point of view, I shall be glad if you can find room for this note in your columns.

Notwithstanding the free use of chloride of zinc, it cannot be denied that the smell of bilge on board ship, especially in warm climates, is sometimes intolerable, and is no doubt *one* cause, or, at all events, an aggravation, of the fever which is frequently so fatal in the West Indies.

I have proposed that a thin *metallic* coating—say of copper or galvanised zinc—should be applied to the bilges of steamers. This would facilitate the cleaning, preserve the wood, prevent the absorption of grease, &c., and diminish the evolution of noxious gases. This plan is considered well worthy of trial by all the practical men whom I have consulted on the subject, and I believe that, if adopted, it is not too much to say that it would diminish the sickness and mortality in H.M. ships and the mercantile marine. I know that your journal is read by many of my brother officers, who, I trust, will allow me, with all deference, to submit the suggestion for their consideration.

I am, Sir, your obedient servant,
John Rose, M.D., Surg. R.N.

H.M.S. *Flying Fish*, Portsmouth,
Jan. 1857.

AMPUTATION OF THE THIGH.

To the Editor of The Lancet.

Sir,—Having had the honour of being dresser at the London Hospital in 1853–54, I am of course anxious to do all I can to add my mite to the credit of the instructions received within its walls. When I arrived in America, June 14th, 1854, the operation of Mr. Luke for amputation of the thigh, although known by means of the English publications, had not, to my knowledge, been attempted either in public or private practice. Since that time, I have had the opportunity of amputating four times by this method,—namely, one of the shoulder-joint, two of the thigh, and one of the forearm. The medical gentlemen who have been present have expressed their satisfaction at the rapidity of the operation, and the accuracy with which the flaps come together. The recovery of all these cases was excellent; the stumps perfect, the greater part uniting by the first intention. The peculiar method of dressing practised by Mr. Luke was adopted in all the cases. I find the anterior and posterior compresses of lint, as applied by Mr. Luke, to afford all the support necessary, and have been able to dispense with the use of bandages or rollers, trusting to sutures, compresses, and adhesive plaster, alone, to support the flaps. Bandages and rollers appear to me to soak up the discharge, to prevent hæmorrhage being readily noticed, and if much blood or discharge soak into them they become stiff, difficult to be removed, and perhaps bring some arterial ligatures with them. Mr. Critchett, in his work on Ulcers, says that "complete and uniform support cannot be obtained by an ordinary bandage, however skilfully applied;" and it is true that an ordinary roller applied to a stump after amputation, soon cuts in one place and becomes loose in another, thus defeating its object. Mr. Fergusson, in his "Practical Surgery," p. 161, says: "I do not deem it requisite always to apply even a somewhat loose roller; I have seen a stump of a thigh admirably treated without any covering at all." Mr. Luke's method of dressing effectually does away with the "thick, greasy dressings," which Mr. Fergusson so much abhors. Mr. Guthrie, in his "Military Surgery," describes this method of dressing, and says that "a bandage is to be applied carefully around the stump." This may, I think, be safely omitted, and then we have a dressing more safe, cleanly, and comfortable than any other ever devised. The discharge from the track of the ligatures is not soaked up, the ligatures themselves are not interfered with when the dressings are removed, and the limb rests comfortably on its posterior cushion, whilst the anterior constantly presses the upper flap towards the lower, preventing the danger of hæmorrhage to any extent, and favouring the immediate union of the whole extent of both flaps. I believe Mr. Luke's method of amputation and dressing will be adopted over the whole civilised world, as the best ever yet imagined, being perfect in theory, perfect in practice.

I am induced to send these remarks to The Lancet, hoping that they may lead surgeons in the United States, who read that Journal, to make a trial of Mr. Luke's method. I am satisfied that they would never leave it for any other.

I am, Sir, yours respectfully,
W. C. B. Fifield, M.R.C.S.L.

Weymouth, 1857.

COAGULATION OF THE BLOOD.

To the Editor of The Lancet.

Sir,—When considering the subject of the chemical history of diabetes in the year 1858, I was led, amongst other things, to conceive a certain theoretical explanation of the spontaneous coagulation of the blood. Having just now read over and reconsidered my notes taken at that time, I must say that I still prefer my theory to the one recently promulgated by Dr. B. W. Richardson, which it resembles in some points.

The statement which I append below is copied nearly verbatim from the notes referred to, but I may premise that the part of the idea which applies to *vegetable* physiology is the only part to which I have given any publicity, as at the time when it occurred to me I considered the whole matter of little moment.

The albuminous or nitrogenous matter found in the young growing cells of *a plant*, is in an insoluble condition. But on its passage in the fluids to those cells it must have been in some manner held dissolved in water. So, when the young cells get old and woody, they no longer contain this albuminous matter. On leaving them for the younger parts, it must again have assumed the soluble state. It seems to me that this phenomenon may be accounted for by supposing the albumen to be dissolved by an *alkaline* condition of the fluids, and deposited in some manner by the development of an *acid* at the particular point required.

The same may occur with the fibrine of animal blood, more prone to such coagulation than albumen. In the circulating blood of an animal we find fibrine in the soluble state. In the tissues nourished by that blood it occurs in an insoluble form. But in the venous blood which carries away the effete products of those tissues, the fibrine is once more found in a state of solution. We are tempted to explain these facts in the same way as above: to suppose the fibrine held in solution by the presence of an alkali, and deposited in the insoluble form by the development of an acid. And, *in fact*, the blood is known to be feebly alkaline (from the presence of the carbonate or basic phosphate of soda), and the juice of muscle was found by Liebig to have an acid reaction.

But how is that when the blood is withdrawn from the living body, its fibrine quickly assumes the solid or insoluble state—i.e., coagulates? By parity of reasoning, I suppose that this takes place again by the development of an acid, to such an extent as simply to neutralize alkalinity, not so as to precipitate the albumen: this acid I believe to be *lactic acid*. It has been lately shown that glucose is always present in the living blood; and further proved, as I believe, that this glucose is continually changing into lactic acid, which as fast as it forms is bound or combined with oxygen to support the animal heat. When the blood is isolated, this vital process of combustion goes on no longer, lactic acid accumulates, the alkalinity of the natural blood is neutralized, and the fibrine coagulates. A tendency to nitrogenous decomposition may hasten this process, by supplying a ferment to act upon the glucose. Blood drawn in fevers coagulates quickly. Diabetic urine, allowed to stand for a time, may lose its sugar, and contain lactic acid. Extensive coagulation of the blood in the living body may be caused by injecting a putrefying liquid into the veins.

Another time I propose to comment at length upon the theory of Dr. Richardson, and to state the motives which induce me to dissent from it. I am also planning a series of experiments, in order to put to a satisfactory test the truth or falsity of the hypothesis sketched above.

I remain, Sir, yours, &c.,
Fred. W. Headland, M.D.

Guildford-street.

EXPERIENCE OF "A NOLD NURSE."

To the Hedditor of The Lanset.

Sir,—i ask your pardin for making so bold as rite to you, has if an old woman like me could ave anything to say that a learnd gentelman like you did not know befor, but i ope Sir that if you spare time to rede this, may be wen their is a corner to spare you woud put it in your paper, has i believe all the Doctors that is real rispecktable takes it in.

i have ad many yeres experence Sir, & have took a deal of notis both with growing young ladys, and halso with maried ladys hin there confinements, and it semes to me Sir, that meddicle gentelmen wen they are called to attend in most of the hilnesses which ladys in general are, thay are not made akwainted harf suffishent *with the* ushul ways of their pashents, or they wond insist on manny things being done different. i ave seen young ladys grow up has well and strong as there brothers til foorteen yere old or therabout as you know Sir, and then turn of has dellikat has if thay ad ad sum dizese all there life. All the meddicle books show that you know the reson well enuf in gineral—it was them as furst set me to taking notis; but then Sir, tho the Docter knows it is all tite stays hor want of good ekserside or both, he nevver says nothing about the stays. i do hassure you Sir, young ladys and ladys thats hold enuf to know better and even servents thats got ard work to do, *will* ware there stays tite has much as evver, tho sum peepel says peepel dont lace tite now. i wish to goodness Sir, the Doctors woud make them ashamed of it. then Sir, wen the ladys gets nervus complantes i have known the Docter tell them to take ekserside, but he does not insist upon it being of a rousing sort. if it does not ster them up and put them in a perspirashun it ardly does a bit of good. exkuse me Sir, for speking so plain, but i ave seen it so often it maks me indigenant to see the foolish young things a throing away themselvs and there mammas inkurriging of them, and the Docter thinking is orders his minded wen the sens of them his never understud at all. Wen the fammily is rich the Docter horders riding, and that does well, eksep that there jakkets is so tite, but wen the Docter knows the ekspense his to grate, he tels them to walk, and so they do, but at such a pase that if thay went til thay dropt thay would nevver perspire the leest, and thay are scarse any the better. Why dont thay play games Sir, or pull an ore hon the water? My young ladys did Sir, and it done them a world of good, but the Docter nevver orders it, and the ladys thinks it ard bekos they ave nevver tryed. but the stays Sir is worst of all; eksersise nor nothin will nevver do no good till thay are left of, and thay nevver will til the Docters set there face agen them. it is no good only riting books agin them, thay shoud insist on always knowing just as regler as they questiun about any thing els. i knew a young lady Sir, who had a delliket chest, and she come of a fammily that was all subject to consumtion that began with spitting blood. She used to flush very much at times, tho in general she was pale, and wen she was flushed her chest was stuffy like and unesy. She was not one of my young ladys or i shoud ave seen to it long before, but she were staying in the house, and one day wen she seemed so poorly, i made bold and says to her, "Miss do you ware your stays tite?" "No," she says, "I dont, but why do you hask?" i says, "i ope no offense Miss, it is bekors you seem to me to brethe so opprest." She was a nice young lady Sir, and she let me see how er stays was fassened, and to be sure they was not to be called tite, nothing like what i ave known manny, but still they did pres a littel, and she ad none to much room in the make of her chest. The end was Sir, i got her to leve them of and ware a jersey what are made for ladys, that she mite not mis the warmth, and i nevver see her flush like that Sir agin. if stays like ers done all that arm, it must be ten times wors were thay are raly tite. i cannot tell Sir what a dele of good you woud do if you woud but beg the meddicle gentelmen to see to those things always wen thay attend ladys; it is nere always the same Sir wen it is fainting and nervus complantes, and they are so angry if a nurse says a word, but they woud mind the Docter Sir.

i ope you will ave a littel more pashens Sir just to say somethin about confinements. it often appens that the furst staige of labor is very tedius, and the sufering very grate, and yet all is hover well and quick wen once the change of panes cums on. in every case that i have been with so as i could know what was the ladys state during the few months previus, it as always ben the same, that she coud ardly get about much, and suferd all maner of il-conweniens, and all the wate of the figger was to much down and to much hover like, and they diskribe the panes when they come hon as being for a long time almost all in the back, not the thro and thro *direckt downwurds* pane that it is in tollerable quick labor. i do reelly think Sir that many a Docter never suspecks the cause of this—i scarse evver knowd a Docter menshun it and never red it in a book. i have seen the *remmedy* spoken of in a book, but not the *cause* of the mischef. it is the wate of the pettycotes. You cannot think Sir what pownds and pownds a ladys pettycotes ways, and even poor peoples is sometimes bad enuf, but not nere so bad as a ladys. if you was to take them up in your hand hall of a bunch you would wunder i'm sure Sir owhevver they can bare them. the way Sir that i ave got some ladys to do as been to ware stays *very loos*, but long in frunt, then below that a brod elastick band which confines the botom of the stays, which shoud ave a thin steel all down the frunt—the band both supportes the wate of the body, and makes the steel keep of some of the wate of the close. i ave nevver knowd a lady unabel to get about, even to the very last, or ave tedius labor in the *early* stage. Diffikult delivvery i know is quite another thing, and is from other causes—wen she ad drest like that, not if she ad ad hevver so manny bad times befor, and wen thay wont do it Sir they go on just the same time after time. it is a hexcellant contryvense that some of the meddicle gentelmen use Sir, of a band round the body at the time of labor, wich they draw up wen every pain comes, but it would scarse evver be wanted if ladys would but do as I say beforhand. Sir, will you beg the meddicle gentelmen to horder it wen they attend ladys before thay are confined. The pettycotes is a most orrible wate; a band of callico would be better than nothing for pore peeple who cant by elastick. One more thing Sir, i ope your pashens is not wore out. After confinement the pashent is bandaged up, but i know that they hoffen leve it of in a very few days without the Docter hasks sometimes about it; but ware i attend Sir, i always makes them ware it middling tite, until all discharge as stopt, and i believe Sir that is what the Docters wish, for they always says i am rite, but some nurses dont mind it, and Docters dont think to ask, and many ladys wont ave it without they are made, and then comes on all kinds of weeknes, all for want of that simpel thing.

i am no great scholard Sir, or i shoud ave rote this myself, and then praps i shoud have said it better, but i cant spel very well, but i ope my dauter as rote it cleer, for i gave her good scooling.

i remane Sir,
your obeedent umble servent,
A NOLD NURSE.

they say what is for print should only be rote on one side—i ope this is done right; it takes a dele of paper.

EFFECTS OF EATING TOBACCO.

To the Editor of THE LANCET.

SIR,—The following case of the use or abuse of tobacco, which has come under my notice, appears to be worthy of insertion in THE LANCET. It is extraordinary, not only as regards the quantity consumed, but also in reference to the peculiar way in which it was used; and shows either that the system may become so habituated to the use of the drug as to bear a great quantity of it with impunity, or that there exists a particular idiosyncrasy in the individual:—

A. M—— is sixty-four years of age, of middle stature, of active habits, possessing a very happy temper, and in the almost uninterrupted enjoyment of good health. He served his apprenticeship both as a sailor and a chewer of tobacco upwards of fifty years ago, and has continued the practice ever since. But the extraordinary feature of the case is, that A. M—— not only *chews*, but regularly *eats*, his tobacco—swallowing every particle both of leaf and juice. For many years this man has been in the constant practice of *eating a quarter of a pound of the strongest negro-head tobacco every five days;* and he tells me that the quantity consumed is not limited by the extent of his appetite, but by the dearth of the article; and that he uses much more when he happens to get a supply free of expense. A. M——'s occupation is to superintend the arrival of vessels in the harbour, and, when there is any unusual excitement, he often eats a whole "stick" of negrohead, weighing about an ounce and a half, "during a tide," as he calls it, which may be about an hour—not one particle of solid or liquid ever being seen again after it has once entered his mouth. This man also smokes at intervals; but his great luxury is *eating* tobacco. In this case there is no waste by what some of your correspondents improperly call "expectoration." "Spitting" would be a more correct expression; or, if they *will* have a learned word, why not "exspuition?"

I see A. M—— almost daily, and can bear testimony to his good health and spirits. He tells me that he enjoys his dinner vastly; and that, when prevented from getting it at the usual time, an additional ounce or two of tobacco enables him to bear the want with less inconvenience.

I may state in conclusion, that this individual has to be at the harbour at tide-time thrice every day all the year round. He sleeps soundly, is refreshed by a few hours' nap, and rises without any feeling of fatigue in all kinds of weather, and often, of course, at very unseasonable hours.

I am, Sir, your obedient servant,
David Arrott, M.D.

Arbroath, April, 1857.

LAUDANUM AN ANTIDOTE TO ARSENIC.

To the Editor of The Lancet.

Sir,—I consider the facts narrated by Mr. Steinmetz, respecting tobacco as an antidote to arsenic, very interesting, the more so from the following circumstances:—

About thirty-five years ago, I was called to see a young woman, residing near the Elephant and Castle, Newington, who had swallowed arsenic, and who recovered under the free use of new milk, which about that time had been strongly recommended by Dr. Currie in his Lectures at Guy's Hospital. I was then on intimate terms with the late Dr. Armstrong, and on mentioning the subject to him he stated that two cases had come under his observation, in which the persons, after taking arsenic, had also taken large doses of laudanum. If I remember right, one took an ounce, and the other half that quantity. The symptoms from arsenic quickly disappeared, and both recovered.

I mentioned Dr. Armstrong's account to the late Dr. Gordon Smith, and he said he should mention it in the next edition of Forensic Medicine. Whether he did so or not I have no means at hand of ascertaining.

I have my theory as to the action of these narcotics in such cases, but we want more facts.

I am, Sir, one of your oldest correspondents,
James Morss Churchill, M.R.C.S.

Colchester, April, 1857.

A NEW MEDICINE.

To the Editor of The Lancet.

Sir,—Permit me, through the columns of your valuable journal, to make a few observations on a medicinal produce, which I am not aware has at present been introduced into this country, nor am I in a position to sound its praises practically; therefore must beg to bring it forward at the recommendation of a medical friend, practising in that beautiful and highly picturesque island, the Mauritius.

During a few weeks' sojourn at the above, in my way home to England from India, I called upon my friend in Port Louis, and, after several meetings, he introduced his remedy for dysentery (a disease generally prevalent there), which he assured me was a most valuable one. The name he gave it, in writing, was "Anderjou," *indigenous* in large quantities in Abyssinia. He had prescribed it in some hundreds of cases in the form of an infusion, combined with some aromatic, and with the happiest result. I have about a pound of it in my possession, if any member of the profession is disposed to inspect it, or test it in any way. In size and form it resembles our common oat, has a strong, agreeable bitter, and is of the colour of cinnamon. The medicinal properties appear tonic and astringent. Should it prove of any value in the treatment of diseases in this country, it can be procured in large quantities.

I am, Sir, your obedient servant,
F. Bishop, late E. I. Co.'s Service.

April, 1857.

⁂ Mr. Bishop has sent us a specimen of the anderjou.

THE MARSHALL HALL METHOD OF TREATMENT IN CASES OF SUSPENDED RESPIRATION FROM DROWNING;—CHILDREN APPARENTLY STILL BORN;—&c. &c.

To the Editor of The Lancet.

Sir,—The attention of the Committee of the Royal National Life-Boat Institution has been recently called to the proposition of Dr. Marshall Hall of a new method of treating persons apparently drowned, which has been to some extent discussed in the columns of THE LANCET, and is now known by the designation of the "Marshall Hall Method."

The subject is felt by the Committee to be one of great—indeed, national—importance, since the restoration to life of numberless persons, both on the coast and in the interior parts of this country, must, doubtless, depend on the adoption of a proper treatment, or the reverse.

But more especially is the subject one of vital importance to the above-named Institution, since at its numerous life-boat stations the printed rules for observance, which are posted up in its boat-houses, are the sole guide to those person who are called on to minister to drowning persons before medical attendance can be procured.

It thence follows, that the issue of instructions by the Institution, on this important subject, clothe it with a responsibility which may well make its Committee of Management anxious as to the character of those instructions.

Up to the present time the Institution has adopted the rules issued by the Royal Humane Society, whose extended sphere of operations might be supposed to give it all the advantages derivable from practical experience.

The promulgation of Dr. Marshall Hall's method, which the Committee are informed has already awakened much interest in the medical profession, has, however, led them to feel that it is their duty to obtain all the information on the subject which either science or experience has revealed, with a view to the re-consideration of those rules which the Institution distributes for information amongst our coast population, and on which the issues of life or death must so often depend.

I am accordingly directed by the Committee to request your co-operation by bringing the subject before the medical profession in general through the columns of THE LANCET, and thus to obtain for the Institution the advantage, so far as it can thus be obtained, of such individual or collective information as the profession may be able to afford.

The Committee believe that the above simple statement of the humane and important object which this Society has in view will be sufficient to elicit a general response from a profession whose whole sphere of duties is so intimately bound up with the welfare and happiness of mankind, and which has always largely extended its sympathy to humane and charitable undertakings in our land.

I am, Sir, your very obedient servant,

RICHARD LEWIS,

Secretary to the Royal National Life-Boat Institution.

14 John-street, Adelphi, April 8th, 1857.

DR. MARSHALL HALL'S INSTRUCTIONS.

1. Treat the patient INSTANTLY, ON THE SPOT, IN THE OPEN AIR, EXPOSING the face and chest to the BREEZE (except in severe weather).

I.—TO CLEAR THE THROAT—

2. Place the patient gently on the face, with one WRIST under the forehead;

[*all fluids and the tongue itself then fall forwards, leaving the entrance into the windpipe* FREE.]

If there be breathing—wait and WATCH; if not, or if it FAIL,—

II.—TO EXCITE RESPIRATION—

3. Turn the patient well and INSTANTLY on his side, and—

4. Excite the nostrils with snuff, or the throat with a feather, &c., and dash cold water on the face previously rubbed warm.

If there be no success, LOSE NOT A MOMENT, but INSTANTLY—

III.—TO IMITATE RESPIRATION—

5. Replace the patient on his face, RAISING and supporting the chest WELL, on a folded coat or other article of dress.

6. Turn the body very GENTLY ON THE SIDE AND A LITTLE BEYOND, and then BRISKLY on the face, alternately; repeating these measures deliberately, efficiently, and perseveringly FIFTEEN times in the minute, occasionally VARYING the SIDE;

[*when the patient reposes on the chest, this cavity is compressed by the weight of the body, and* EXPIRATION *takes place; when he is turned on the side, this pressure is removed, and* INSPIRATION *occurs*].

7. When the PRONE position is resumed, MAKE equable but efficient PRESSURE, with brisk movement, ALONG the back of the CHEST; REMOVING it immediately before rotation on the side;

[*the first measure augments the expiration, the second commences inspiration*].

⁂ THE RESULT IS—RESPIRATION;—AND, IF NOT TOO LATE,—LIFE!

IV.—TO INDUCE CIRCULATION AND WARMTH—

8. Meantime rub the limbs UPWARDS, with FIRM GRASPING PRESSURE and with ENERGY, using handkerchiefs, &c.

[*by this measure the blood is propelled along the veins towards the heart*].

9. Let the limbs be thus warmed and dried, and then clothed, the bystanders supplying the requisite garments.

10. AVOID THE CONTINUOUS WARM-BATH, AND THE POSITION ON, OR INCLINED TO, THE BACK.

News Items, Medical Facts, &c.

LONGEVITY.—From the returns of the Registrar-General, it appears that in three years 266 persons have died in England and Wales of the age of one hundred years and upwards.

Jenner Monument.—The statue of Dr. Jenner has been most successfully cast in bronze. A meeting of the committee will be called in a few days to consider the most appropriate site, upon which the character of the pedestal must of course depend. The monument has always been described and intended by the committee to be a tribute from all nations to Jenner, as the benefactor of the whole race of mankind. The subjoined analysis of the subscription-list will show how completely this has been carried out:—America, £340 (no return from New York); Sweden and Norway, £83 10s.; Holland and her colonies, £25; Russia, per Dr. Markus, £241 (this was returned as first list, but the war interfered before anything further was sent); Sardinia, £93; Prussia, £28; Emperor of the French, £20; King of Denmark, £20; sundry places abroad, £18 10s.; England, £196 (including £25 from Prince Albert); total, £1065.

College of Surgeons Conversazione.—The second conversazione of this College, given by the president and fellows, was held on the 9th inst. Nothing is more adapted to produce an agreeable réunion than these meetings, when usually the members of the legal and other professions become the guests of the president and fellows. The lecture delivered by Professor George Wilson was remarkable for its happy mode of treatment, and the ability displayed in clearly enunciating the truths of science. The fortunate peculiarity of Professor Wilson, as a lecturer, is, the number of appropriate and original metaphors he employs in illustrating those phenomena which otherwise might prove enigmatical to a general audience. His subject—"Phosphorus and Nitrogen as Elements of Plants and Animals"—formed the basis of a masterly and eloquent dissertation. After proving that all organisms were as distinctly chemical as anatomical—that each possessed powers of selection, rejection, and adaptation, he passed on to describe the combinations and attributes of the human body. Life, he said, was like Penelope, ever weaving and unweaving the same web, whilst her grim suitors stood watching for her halting; though, alas! unlike Penelope, Life had no Ulysses to step in to her rescue. Describing phosphorus as an element of plants and animals, he alluded to its great importance in the system. Nitrogen, although equally useful, was neutral in itself; but there was much yet to be discovered. Nickel and cobalt were to be found in the blood, and science was to be made perfect.

French Homœopaths in Trouble.—The Cour de Cassation (Supreme Court of Appeal) has just decided that homœopathic practitioners are not at liberty to dispense their globules in localities where a pharmacien is residing. Our readers are aware that no one can legally dispense medicines in France, save the regularly-educated and diplomated pharmacien, who is himself prohibited from practising medicine.

Dr. Wylobycki.—The case of Dr. Wylobycki, a homœopathic physician, who has just been found guilty of forgery, and sentenced too fourteen years' transportation, has created here a profound sensation. Taking advantage of an intimate acquaintance, he got within his power the affairs of two maiden ladies, and placed their money out in his own name. Encouraged by first successes, on the death of the one he induced the survivor to forge a will in his favour, but the experience of the legal adviser employed by her family soon detected the cheat, and, after a lengthened trial, the above sentence has been recorded.

A Deceptive Consultation.—The "Gazette Hebdomadaire" of Paris gives the following professional anecdote: A lady, not quite satisfied with the result of the treatment of her medical attendant, requested a consultation. This was immediately consented to, and the next day the practitioner presented himself, accompanied by an eminent professor of the faculty. The patient was examined, the gentlemen conferred, the prescription was framed, the fee paid, and everybody was satisfied. A short time afterwards, the lady wished to see the professor alone, and went to his house, when she found him, most alarmingly changed, and his hair turned quite white. She expressed her astonishment, and it was discovered that the consultation had taken place with a sham professor.

Singular and Awful Death.—On Wednesday, March 3rd, a coroner's inquest was held at the Swanpool Inn, Aston, before S. Poole, Esq., coroner, on the body of Mrs. Phœbe Randal, who was burned to death on the previous Friday. It appeared that deceased had two paralytic strokes during the last nine months, and that for twenty years she had been in the habit of smoking tobacco rather freely, her husband sometimes giving her a pipe at three o'clock in the morning, which, according to the evidence, was "the only comfort she had." Some of the jury were of opinion that smoking tobacco, having a depressing influence on the nervous system, was the cause of her paralysis, and that though tobacco was kindly given to the patient by her relations, it was injudiciously administered. However that may be, it clearly transpired that she was burned to death from smoking in bed, the bed clothes having taken fire from the ashes of the pipe, and deceased, being in a helpless feeble state, was unable to extinguish the flames. It appeared that her husband, who lives in Barford-street, Birmingham, behaved kindly to her, and that he sent her to a relative in Aston for the benefit of her health, and that she might be "better taken care of." The coroner said the case was singular, and that he had never known an instance of a person being burned to death arising from smoking before. The jury returned a verdict of "accidental death."

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